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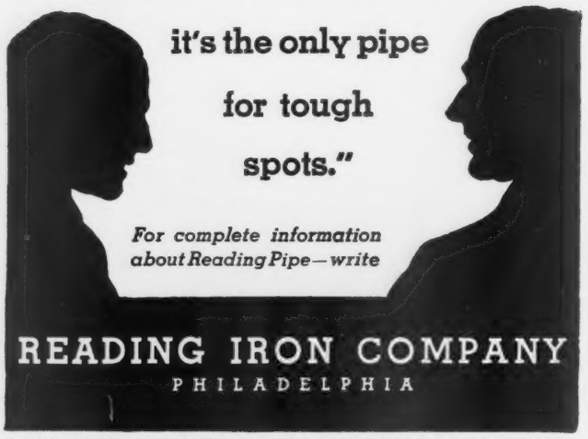

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CONTENTS

Page

Officers—The National Society of Professional Engineers..... 4

Rendering Public Service..... 5

The Contract System..... 6

Professional Recognition..... 8

Consulting Engineers' Report..... 10

Registration for Capital..... 12

Ethics and Organization..... 15

Items of General Interest..... 16

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RENDERING PUBLIC SERVICE

Connecticut Society Calls for Flood Control

Uses Unequivocal Terms in Addressing Government

Receives Approbation from Press, Public and Officials

IN DIRECTING public attention to the need for a comprehensive plan of flood control, the Connecticut Society of Professional Engineers has rendered a real public service and has focussed attention upon the engineer. In forceful and unequivocal language it places the responsibility for future flood catastrophes at the door of government, state and national. It does not contend that if its proposals are followed floods will not occur nor does it profess to insure immunity from disaster. It does, however, and justly so, condemn the failure of government to utilize available means of combatting nature's severity. Recognition and approval of its action have come in astonishing volume from governors, legislators, professional and civic organizations, the press and prominent individuals from almost every walk of life. The reaction has been so pronounced that there is reason to believe an aroused public opinion will demand consideration of the Society's recommendations.

Engineers have in the past debated, resolved, proceeded and transacted on the subject of flood control but, as societies, always in a more or less apologetic manner. Here, however, is an indictment that cannot be ignored. The engineer is speaking not as a professional man, but as a citizen concerned with the welfare of the state. He calls upon society to save itself not alone from misdirected natural forces, but from the indifference and ignorance of men. Concern for the common welfare is the first obligation of every citizen and the engineer here justifies his right to citizenship.

The professional society alone among the so-called engineering and technical organizations, commands public respect because it is composed entirely of persons legally entitled to the designation "Engineer." It is capable of public service because it functions by direct contact with the citizens and officials of county, state and nation. Under such circumstances, the opportunity for public service is unlimited. In fact, such opportunity is in reality an obligation and the response accorded the action of the Connecticut Society is but an indication that public opinion is awakening to the realization that the engineer is indispensable to the protection as well as the development of cvilization. As a citizen the engineer himself must appreciate this and if government, as represented, declines to avail itself of service and knowledge essential to the common welfare, then it becomes the duty of the engineer to seek public office not as a professional man, but as a citizen, on a platform that would reflect public opinion.

That the press and the public are open to conviction may be gleaned from the principal editorial of the Bridgeport Sunday Post of March 29th. It is worth reprinting:

"A Timely Resolution

"The resolution introduced at the session of the Professional Engineers' Society of Connecticut, meeting in Bridgeport yesterday, calling for an engineering plan of flood control in the inundated areas, has the virtue of striking while the iron is hot. With the memory of the recent floods still fresh in mind, with the damage unrepaired and the losses still to be met out of private and public resources, we can perhaps crystallize some sort of definite program.

"That the engineers are right in insisting that the flood control program should be devised by competent engineers, and not by laymen, by politicians, or by theorists with notions, surely no layman will deny. The cost is too great, the stake too high to permit of the possibility of failure.

"Out of our flood experience two facts stand forth. One is the fact that floods may be kept in control at ordinary flood levels by dikes in the cities and dams on the headwaters of our principal streams. The other fact—equally important—is that floods cannot be expected to remain within the present flood levels, unless we do something to control their cause. The evidence on this point is overwhelming. Since we have been keeping accurate records of rainfall and accurate measurements of flood stages, we have found out that while rainfall is not increasing, flood stages on all important rivers are steadily rising. The removal of our forests and the wearing away of the top soil—what the geologists call the 'A-horizon'—is the answer.

"To keep floods within bounds at ordinary levels we need such engineering works as dikes and dams. To keep the flood menace from growing steadily worse, and to reduce it to its natural levels, we must do something to restore the 'A-horizon,' which has the function of holding billions of tons of rain water in suspension and feeding it out slowly through springs and brooks. The first is a problem of construction, the second a problem of reforestation, with some consideration for contour levels and restoration of top soil. Both together will end floods and add immensely to the nation's wealth as well as to its security and freedom from threat of natural disaster."

THE CONTRACT SYSTEM

versus

Day Labor Methods

In Construction Work

By
JAMES E. GIBBONS
(As presented to American Road Builders Association)

(*Continued from March issue*)

IT SHOULD be apparent that if the *true* costs developed by the day labor methods are the only criterion used against contractor's prices the result will inevitably be an increase in costs to the Government because the contractor's costs will be influenced upwards and not downwards if he is obliged to meet only the day labor prices and not the unrestricted competition of private contractors. Remove the element of incentive and competition and you remove the very essence of efficiency and economy. The theory that the day labor method will keep contractors' prices down is a piece of stupidity of the most monumental proportions.

Now as to the claim that contractors are sometimes without sufficient or adequate equipment to handle some particular projects.

Some years ago, a Congressional hearing developed that the U. S. Corps of Engineers had done, during the previous year by day labor some thirty-four millions of dollars' worth of work. It was also developed that this Corps had on hand to do this work some $58,000,000 worth of equipment. Several contractors testified that a plant of $10,000,000 would have been more than ample to do the work for which the $58,000,000 plant was used. It *would* be *quite correct* to say that no contractor would ever be loaded with any such disproportionate amount of plant.

It is also safe to say that every worthwhile advance in equipment has been made by manufacturers solely to meet the demands of private contractors, and seldom, if ever, to meet a demand arising out of a day labor project. As long as human nature remains as it is today and as it has been since the beginning of time, it would never be necessary for equipment manufacturers to develop new and more efficient mechanical units if the day labor method prevailed. Instead of applying their brains and talents to developing finer equipment, their efforts would be applied to ascertaining who was who in the purchasing department. After that has been done they could go along merrily, producing even an inferior and antiquated article and still leave far behind, in the race for business, the fellow who had the finest article on the market but who did not know the *right* people in the purchasing department.

There never has been and there never will be a job but what there will be at least several contractors ready and willing to provide proper and ample equipment to do the work in the time required. The time required to complete the project by a contractor will always be much less than what will be required by any day labor outfit that ever existed.

You don't have to go far for the refutation of that claim. Every one knows of at least several projects which are being done in their own locality today by the day labor method and which are outrageous examples of inefficiency, wastefulness, total indifference and irresponsibility.

The writer does not want to go into the merits or demerits of using public works as the channel for relief. Nor does he want to find fault with the efforts and results of the rank and file of relief workers. He does not wish to voice his views on the ultimate effect of relief work upon the morale, well-being and future welfare of the workers. But he does criticise the management and judgment of those directing this program.

They are the new order of day labor advocates with whom you will have to contend. The present management is a fair indication of what you may expect if they remain in the saddle and leech themselves upon the country through the continuance of some day labor program in the future.

Collusion between contractors is very often offered as a reason for the justification of day labor. No doubt there have been some isolated cases of collusion between contractors in the past which can be pointed to, and it is supposed there will be some few cases in the future. However, they can in their totality be only an infinitesimal portion of the volume of work done by the contract system. It is a well known fact that collusion cannot prevail without the knowledge and consent of the awarding or supervising authority. A capable engineer can tell whether or not the price bid is a reasonable price, and under the contract system he always has the power to reject any and all bids which are unreasonably high. Therefore, the correction of this evil lies entirely within the control of the authorities, and the possibility of collusion on any large scale is very remote and highly improbable.

The contract system has numerous advantages over the day labor method, some of the principal ones being:

1. Plans and specifications are properly prepared in advance of the letting of the contract.

2. Great savings and better designed structures are the result of careful planning.

3. An engineer's or architect's estimate of the probable cost is made in order that the reasonableness of the bid can be ascertained prior to making the contract.

4. The bidding system serves as a check against errors of the engineer in estimating, because there is no expert opinion in this country which costs so little to obtain as the expert opinion of the guaranteed bid of

competing contractors who are willing to back up their opinion of costs with their own case.

5. Competitive bids are taken on a uniform basis, thereby assuring a minimum bid price.

6. The contract is awarded to the honest bidder and the owner gets the benefit of competition.

7. The successful bidder is required to give bond that he will perform the work in accordance with the plans for a definite cost and within a definite time.

8. The construction is properly and carefully inspected, thus assuring the owner of the quality of work contemplated by the contract.

9. The owner takes no chances. Its representative, the engineer, or architect, writes the specifications for what he wants, for when he wants it, for the price he is to pay, and gets it.

Higher efficiency and lower costs result from the system of rewards and penalties which automatically develop in the contract system.

Improved methods and equipment, whose benefits never cease, develop under the contract system.

The pressure of keen competition works wonders.

Expert and highly specialized personnel are developed and used.

Leadership of the right type can only be developed under the contract system.

The great fundamental advantage of the contract system has its root in human nature itself. A man naturally works harder for his own interests, where his own personal fortune is at stake, than he will as a mere representative of someone else's interest. If a man is in charge of an operation where he knows that every move he makes will mean either profit in dollars or loss in dollars, his mental attitude is quite different than it would be where rewards and penalties are not so direct, and therefore not so forcefully felt by him. That is the reason a man as a contractor will handle an operation more efficiently than the same man as a superintendent working for the public.

The contract method sets up handsome prizes for men who can find a cheaper way of performing their tasks. The drive to get the job finished in the most economical manner is back of every contractor and every man in his employ. That drive is bound to result in improved methods whose benefits never cease.

A contractor must maintain his efficiency or go out of business.

Summing up, the contractor has had to climb a hard road to success. He has had to meet all kinds of competition and has had to pay for his mistakes with his own cash. Bitter lessons of experience have been indelibly impressed upon him, and he seldom makes the same mistake twice. In this hard school of experience he learns what tools will give best results on the project before him. He has developed a keen judgment of human nature, of the capabilities of men and their weaknesses. He has learned to inspire his men. In his dealings with others he has built up a respect for his skill, integrity and responsibility. He delivers the goods, the kind he promised and at the price he agreed.

Mr. Thomas H. MacDonald, Chief of the Bureau of Public Roads, at a hearing held by the House Roads Committee, January 22-23, 1935, Washington, D. C., testified in part, as follows:

"In order to get a reasonable measure of the relative efficiency of contract and force account work, we required each state to undertake at least one project by the force-account or direct-labor method. These projects were selected after bids had been taken in order to know what the work would cost if let by contract. The states have kept very careful records of the cost of doing the work by force account, and, while we have not the final records, in practically all cases the cost has been higher by force account—some materially higher. . . . However, there is no question about the relative economy of contract work versus force-account work under the supervision of the public bodies."

When asked the principal reason for the increased economy of contract work, he replied:

"The principal reason, I think is that it is very difficult to get the same loyalty and performance from either material suppliers or the employees on the job, to the public, as the contractor can secure."

Despite its many disadvantages, the day labor method of doing construction work is slowly but surely driving the general contractor out of the realm of public works construction, and its complete dominance and control of the public works field is just as certain, in my opinion, as death and taxes, unless something worthwhile is done to prevent it and done quickly.

It seems equally certain that the public roads will be the next large branch of public works too that will become the objective of the day labor advocates. Its very nature makes it particularly attractive to them. The volume of the work is large. It is spread throughout the entire country and thereby has great patronage possibilities. The usual arguments advanced by day labor advocates can be applied to public roads construction with much greater plausibility than can be applied to either superstructure or subsurface construction.

Examine into the day labor activities of the U. S. Corps of Engineers in river and harbor work during the past fifteen years and then decide for yourself whether this is so or not.

It probably is a fair statement to say that this field would have been completely taken over during the present "Roman Holiday" if the Bureau of Public Roads had not had as its chief a man who has kept his feet on the ground, who has retained his common sense, who knows that the contract method is by far the best method for the public interests, and who has the courage of his conviction.

However, if someone else is ever placed in charge of the Bureau of Public Roads who lacks the sterling qualities and courage of the present chief, the road building industry will be taken over, bag and baggage, and *so* quickly that it will make your head swim. It will be made to appear that in taking it over they are rendering a public service of the first magnitude by freeing the country from the grasp of a band of high binders of the worst possible order who have been masquerading under the name of road contractors.

The day labor method does not offer a single advantage to the country or the general public, as a whole; it is fraught with menaces which threaten the very foundations of our system of government, and it is the same extravagant and wasteful measure which has been largely instrumental in wrecking governments, countries and empires down through the ages, because it always brings in its wake those sinister twins, patronage and paternalism.

The only thing that has checked the intrusion of day labor heretofore has been the fact that it was inefficient

(*Continued on page* 25)

PROFESSIONAL RECOGNITION

The Second of a Series of Articles

From the Pen of the President of N. S. P. E.

"What Is Wrong with The Engineering Profession"

By

D. B. STEINMAN

OF ALL the learned professions, engineering is the most backward in securing public understanding and recognition. This is due not only to lack of proper presentation to the public, but also to an inferiority complex and a discouraging attitude among engineers themselves.

The public has but a hazy conception of the scope and qualifications of engineering. To the average layman an engineer may be anything from a General Goethals to a "Casey Jones"—or from a consulting specialist to a garage mechanic.

An authentic story is told of a man who gave up the practice of engineering in order to study dentistry. When asked why he made such a change, he confidently explained that his wife was socially ambitious and she wanted her husband to become "a professional man"!

To the youth of the land, radio scenarios and popular fiction present the adventures of "sand-hogs in a caisson chamber, riveters on a bridge erection, rock drillers on the construction of a dam, or hoist runners on the building of a skyscraper, as a heroic picture of "engineers" on the job. The authors and sponsors are puzzled when we protest such popular depiction of our profession as misleading. So long as popular fancy carries the misconception of the engineer as a khaki-clad "roughneck" or as a glorified mechanic, it will be difficult to establish public recognition of the engineer as a scientific planner, creator, and administrator, professionally trained.

Some years ago, in one of the states, before educational qualifications and professional examinations had been written into the Engineers' Law, a public official connected with the administration of registration laws seriously proposed to transfer engineering from the Professional Division to the Division of Vocations!

In another state, when an engineers' registration law was proposed, some of the legislators, in rejecting it, remarked that the licensing of engineers would be followed by requests to license barbers, manicurists, and elevator men! The legal standards for admission to practice in the medical, legal, and architectural professions were established and unquestioned, but engineering, in the minds of these legislators, belonged in a different and inferior category.

Similarly, when a bill was introduced in the present session of Congress to establish the registration of professional engineers in the District of Columbia, the newspaper release announced as a single item the introduction of bills for the licensing of engineers, barbers, and beauty parlors! Apparently, to the press services and the newspaper editors, this grouping did not appear incongruous.

We can hardly blame lawmakers, officials, and the public for such objectionable classification and association when we find acceptance and promulgation of the same disparaging attitude within our own profession. When we cite the medical and legal professions as precedents for our registration legislation, men who are supposed to be leaders in our profession tell us that the same conditions do not apply and that engineering falls into a different category. And when we propose an effort to establish the use of our proud title of "Engineer" or "Engr." as a distinctive designation, an editorial in a leading engineering publication, instead of referring to the established professional designations of "Doctor" and "Counsellor," suggests that the logical extension of the idea would be to barbers and chiropractors! Where we should expect to find most support, within our own profession, we encounter discouragement and disparagement. This habit of mind among engineers does not advance public recognition of the profession. In considering our problems, we can think in terms of the most distinguished learned professions or we can think in terms of the trades and vocations. A profession, like an individual, is accepted at its own valuation.

Several years ago, when the Engineers of New York State were seeking to correct a professional discrimination that had inadvertently been written into the statutes, some architects testified before the legislature that engineering was a nondescript profession comprising a heterogeneous aggregation of trades or specialties and requiring not even a high-school education for preparation. They declared that any man who carried a rod or a chain for a few years thereby and thereupon became recognized as an engineer. They added that structural safety was not assured unless the designing was done under the professional supervision of an architect. All of this sounded plausible enough to the legislators, most of whom did not know what an engineer is or what engineers do. It required years of organized educational and legislative effort to correct this picture.

It is a common experience to attend the dedication ceremonies of great engineering projects, and to hear the oratorical tributes to the politicians, the officials, and the bankers, *with no reference to the engineers!* In 99 cases out of 100, the names of the engineers are missing from the newspaper accounts, omitted from the commemorative plates, and unknown to the public. In fact the public is generally left quite unconscious of the part played by engineers in these works. The members of our sister profession, the architects, both individually and collectively, have taken care of this problem and have mastered the art of establishing themselves in the public consciousness.

Recently I was being shown through a new building of advanced structural steel design on a university campus. My guide, a professor of engineering, glibly

told me the name of the architect; but he was stumped when I asked him for the name of the engineer!

In the entrance corridor of the Empire State Building there is displayed a commemorative tablet listing the names of the various officials and others who were identified with the project. The names of the architects are featured, but the names of the engineers are conspicuous by their absence. We know that the design of a modern skyscraper is 90 percent engineering and only 10 percent architecture, but the man in the street does not know that. We regard a structure like the Empire State Building as a triumph of modern engineering, but the layman is ignorant of the outstanding part played by the engineer and his science in making such structures possible. We addressed the officials requesting a correction, and back came their reply: They stated that "obviously" they had to record the names of the architects who had "designed" the structure, but that they could not be expected to include the names of all of the "trades" (such as plastering, plumbing, glazing, painting, wiring, and engineering!) that had worked on the building under the supervision of the architects.

In the new edition of the Encyclopedia Britannica, under the subject of "Bridges," you will find a full-page plate illustrating the Philadelphia-Camden Bridge, which we regard as another triumph of engineering; but the caption under the illustration reads: "Delaware River Bridge between Philadelphia and Camden, designed by Paul Cret." (Paul Cret is an architect who was engaged to assist the engineers on this work.) In the text and illustrations, there is no mention of the distinguished engineers who were responsible for the design and construction of this great bridge. In the "Architectural Record" there have appeared advertisements with illustrations of the Philadelphia-Camden Bridge, with the legend "Plans and Specifications by Paul Cret," and again no mention of the engineers. I mentioned all of this to a prominent engineer and he said, "I do not blame them if they can get away with it."

A persistent campaign of advertising produces pictures in the minds of millions. In a supplement of a New York newspaper, pictures of bridges were shown together with the names of architects. This was at the time when that profession was seeking to secure, through legislation, a monopoly of the structural field to the exclusion of engineers. I did not know that any architects were in the practice of designing bridges in New York State.

In conversation with an architect, I asked him, "Why is it that newspapers and magazines, when publishing a picture of a building or structure, always give the name of the architect and omit mention of the engineer?" He replied: "My profession has been working for years to educate the newspapers and magazines never to publish a picture or description of any structure without giving the name of the architect." When I asked why the engineers' names were not included, he replied: "That is your lookout. Why does not your profession look out for that as ours has done?"

The architects have been engaged for years in an effective campaign of propaganda, publicity, and public education. Some years ago, we suggested similar activity by the American Society of Civil Engineers, only to receive the reply that the Society maintained a policy of refraining from "propaganda," and that its publications could not be used for any such purpose. Nevertheless we find that the "Octagon," the official national publication of the American Institute of Architects, has carried article after article of propaganda and campaign material, including articles stating that the architects must unite to eliminate the competition of "builders, mail order houses and engineers"! They have been conducting a consistent campaign of nation-wide significance, with no consideration for the engineering fraternity *so long as we were not organized to take care of our own interests as a profession.*

To remedy this situation, State Societies of Professional Engineers have been organized and these have banded together to form the National Society of Professional Engineers. The most important activity for this organization is in the field of public relations—to place the engineer properly before the public and to secure public understanding and recognition for the engineering profession.

Engineers are problem solvers. The securing of professional recognition is a problem, and we can solve it.

We can conduct a planned publicity campaign, with periodical releases to newspapers and magazines on behalf of the engineering profession. We can plan and arrange public lectures and radio programs to bring the profession's messages before the public. Through press releases, public meetings, and radio, we can inform the public on the high qualifications of the engineer, the importance of his services to human progress, the requirements of registration, proper methods of selecting and engaging engineering services, and the desirability of appointing engineers in public councils and in high executive and administrative positions. We can impress upon the public the realization that engineering represents constructive vision, scientific analysis, intellectual integrity, and economic progress.

We can conduct a campaign, through published resolutions, publicity, correspondence and editorial cooperation, to secure proper public recognition of the engineer and his work. We can wage a campaign to secure credit for engineers in connection with the works designed and executed by them, including specific recognition and credit in published accounts and illustrations, in dedicatory exercises, on name plates, and on commemorative tablets.

We can serve as the voice of the profession to correct popular misconceptions which are detrimental to the engineer, including such fallacies as "overproduction" and "technological unemployment" which tend to blame the engineer for our economic ills. We can educate the public on the correct place and attitude of the engineer in national economic problems. We can secure sympathetic understanding of the problems and the aspirations of the profession. We can secure for the engineer his rightful place in social and economic readjustment, planning and progress.

Other professions have shown us the way, through organized activities for advancing public respect and recognition. We can profit by their successful examples. The first requisite is proper professional organization, and that is now supplied by the National Society of Professional Engineers—the first national organization of the engineering profession.

CONSULTING ENGINEERS' REPORT

A. I. C. E. Committee on Development

Summarizes Opinions of Correspondents

Chosen from Field of Private Practice

Comments Invited and Offered

A REPORT, prepared by a committee composed of George C. Diehl, member, and F. Lavis, chairman, and published by the American Institute of Consulting Engineers, contains some interesting expressions of opinion from correspondents. In forwarding the publication, Secretary Philip W. Henry requests a "further expression of thought." Acting on this request, the *American Engineer* offers editorial comment. Such comment is offered in the hope that it may prove helpful to the A. I. C. E. in formulating plans.

Definition of Consulting Engineer

Committee:

Many writers have commented on the fact that there is no adequate definition of the term "Consulting Engineer," or the duties such a term implies. The following are some comments:

Correspondent:

It is my view that a consulting engineer is one who, because of considerable experience with a variety of projects and successful execution of important commissions, has acquired the mature judgment necessary to qualify him to plan and design whole projects in such a competent and adequate manner that all of the parts will function as a well-balanced whole. There is a clear distinction here between the specialist in particular branches of engineering, business management and finance, and the consultant who can be regarded as a specialist on complete projects (who also is a specialist in his own particular line).

My idea would be to create in the United States some accepted certificate of consulting engineering competency reasonably consistent in effectiveness and exclusiveness with the charters of the British engineering societies, or the licenses used here in the United States in the legal and medical professions.

Ed. Comment:

The writer makes a bad analogy. Medical and legal professional licenses are certificates of basic qualification, not of competency or professional accomplishment; they are entirely parallelled by the engineering professional license now required in nearly three-quarters of the States. He probably has in mind the establishment of a distinguishing mark based upon accomplishment. This no professional license does or can do. Individual capacity alone can earn public and professional emoluments.

Industrial Competition

Committee:

Several of the replies to the inquiry of your committee refer to the competition of certain manufacturers of structural materials, patented articles, specialties, certain types of supplies, machinery, etc. Protests of this nature, however, have been rather less than might have been expected and the reason therefor is not at the moment apparent. Some of the replies follow:

Correspondent:

In my own special lines, the reinforcing bar people and the structural steel fabricators have taken over a large part of the structural work that is done for architects.

The sales engineers from different large manufacturing companies have done a lot of harm, especially in the industrial manufacturing companies, in trying to give engineering advice so that they can sell their product and in a great many cases this advice was misleading. A drive should be made to try to keep our large manufacturers from doing consulting work.

Ed. Comment:

The author of this complaint might well review the history of licensing legislation in New York. Since its inception the New York State Society of Professional Engineers has contended against this form of unfair and improper professional practice. Year after year the law has been tightened with a view to preventing abuses. Today corporations are not permitted to practice a profession and the State Society has, by campaigns of education, law enforcement, professional conduct investigation and other measures accomplished more in the direction of eliminating abuses and protecting both public and profession than all other proposals or movements combined. A united profession, with its practice regulated by law and a 100 percent membership in an organization dedicated to the policies of the National Society of Professional Engineers, with its State Societies and County Chapters is the only answer to the complaint of this correspondent.

* * * * *

Committee:

Several references are made to the attitude of the National Engineering Societies—Civil, Chemical, Mechanical, Electrical and Mining—in failing to take, what the writers consider, adequate steps for the protection and promotion of the social and material interests of their members.

References are also made to the activities of the American Association of Engineers and the various Societies of Licensed Professional Engineers whose main object is the promotion of the welfare of their members.

Any movement for the further promotion of the interests of the engineer should undoubtedly seek insofar as may seem to be practical, the cooperation of these two general groups.

In this connection, however, it may be worth while to recall the fact that while in recent years the national societies have taken certain cognizance of the social and general welfare interests of their members, their principal reason for existing has been the development and

dissemination of technical knowledge. In this important field they are supreme and their continued existence for this purpose is a sine qua non for the adequate progress of the profession in its fundamental necessity for adequate progress in technical knowledge and development.

It is an important and serious question, and of course, open to debate, whether these societies may not best serve the profession by maintaining a very high standard of technical excellence and ability, and confine their attention only to this. In any event, inasmuch as these societies comprise in their membership all grades from students up, employees as well as their employers, they cannot and should not, be expected to devote their attention to any one class exclusively.

Perhaps it may be noted here that the architects seem to have gone much further than engineers in caring for and promoting the general welfare of the members of their profession.

The American Association of Engineers and the various societies of licensed professional engineers also have an important function in developing and maintaining high ideals among the rank and file of the profession from which leaders are to be developed. By and large, however, their members are largely employees and as yet are not vitally interested in the problems of the engineer in private practice, the employer engineers, except as these may affect their own prospects.

There are some comments on the danger of exaggerated claims made by licensed engineers, as to the benefits of licensing, and to the accomplishments of the profession thereunder.

Our attention has also been called to the Federation of Architects, Engineers and Chemists which seems to be allied to or has some connection with the American Federation of Labor.

Ed. Comment:

This commentary by the A. I. C. E. committee states the case. One point, however, is not well taken, viz., "Their members are largely employees." The strictly professional society recognizes no distinction between employees, employers or private practitioners. It is concerned only with engineers and strongly disapproves of any attempt to distinguish between sub-divisions of the profession or between engineers engaged in public corporation or private employ. It is probably true that a majority of its members may be employees, but that is because it represents a true cross-section of the profession. The same condition prevails in any engineering body because of the predominance of employed engineers in the body politic. It does not, however, permit any group to direct affairs or determine policies which are not in keeping with its constitution. It is to be regretted that the A. I. C. E. fails to recognize that the professional society believes that the hope of every engineer is to be one day a consultant and that the program of the Society is so largely predicated upon such premises.

As to the claims made by licensed engineers one need only study conditions before lawyers and doctors were licensed.

American Engineering Council

Correspondent:

I think the American Engineering Council and the rapidly expanding Society of Professional Engineers are doing about all that anyone can hope to do or hope to have done toward discrediting the engineering profession in the eyes of the general public. I was one of those most active in formulating the original policies on which the Founder Societies supported the American Engineering Council which was born under a different name. I have long been out of sympathy with its actions and at the present time the material which it sends out is purely bureaucratic and political, and in my opinion serves no useful or constructive purpose and is highly detrimental to the profession.

Ed. Comment:

One takes no issue with the comment on American Engineering Council. It is difficult to understand how any agency can sincerely and properly represent so many heterogeneous societies. It is merely a quilt without a pattern and with no definite purpose that can be discerned as common to all.

On the other hand, the National Society of Professional Engineers is a homogeneous confederacy of states and counties so organized professionally, geographically and politically (elective sub-divisions of nation and state) as to effectively accomplish what is here below set forth by another correspondent; in fact it is doing just this right now.

Committee:

That an agency in Washington is desirable is indicated by the following suggestions:

Correspondent:

The work suggested by your letter of October 28th, referring to the need for more engineering attention on Government projects, could, in my judgment, best be handled by American Engineering Council.

Establish in Washington an office that will work out its own field of activity, and coordinate that office with a non-salaried member of the Consulting Engineers Institute, who is a resident of his own state, and is also able to establish contacts with the state government of his own state.

The Washington office to be alert to all Federalized activities, and board and commission appointments, sending to its members mimeographed sheets of information showing the progress of its efforts, names of Congressmen and Senators who support its recommendations to public office, and keeping a liaison with the State Director of the Institute to the end that the said Congressmen's and Senators' homefolks may be kept advised as to the position of said public officeholders towards the Institute's efforts for constructive engineering activity in Washington. This to acquaint the populace with the fundamentals of public measures, and public appointments.

Representation of Engineers in Private Practice and Consulting Engineers

Committee:

None of the above-named organizations has, however, for its main object the promotion of the interests of engineers in private practice or consulting engineers, both of which are primary objects of the American Institute of Consulting Engineers.

Membership in the Institute requires as a primary indication of technical ability, full membership in at least one of the national engineering societies. Besides this, adequate proof of important engagements as a consultant, and of establishment as an independent

(*Continued on page* 24)

REGISTRATION FOR CAPITAL

Legislation Regulating Practice of Engineering

Introduced into Senate and House of Representatives

National Society and District of Columbia Sponsor Measures

By
SENATOR ARTHUR CAPPER—KANSAS
REPRESENTATIVE JAMES QUINN—PENNSYLVANIA

Senate No. 4443—*H. R. No.* 11853

A BILL

To regulate the practice of professional engineering, creating a Registration Board for Professional Engineers of the District of Columbia, defining its powers and duties, providing penalties, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in order to safeguard life, health, and property, any person practicing or offering to practice the profession of engineering shall hereafter be required to submit evidence that he is qualified so to practice and shall be registered as hereinafter provided; and it shall be unlawful for any person to practice or to offer to practice the profession of engineering in the District of Columbia, or to use in connection with his name or otherwise assume, use, or advertise any title or description tending to convey the impression that he is a professional engineer, unless such person is duly registered or exempted under section 18 of this Act.

Definitions

Section 2. The term "professional engineer", as used in this Act, shall mean a person qualified to practice professional engineering. A person who practices professional engineering within the meaning and intent of this Act is one who holds himself out as able to perform, or who does perform, any professional service such as consultation, investigation, evaluation, planning, design, or responsible supervision of construction or operation in connection with any public or private utilities, structures, buildings, machines, equipment, processes, works, or projects, wherein the safeguarding of life, health, or property is concerned or involved, when such professional services require the application of engineering principles and data.

The term "Board", as used in this Act, shall mean the Registration Board for Professional Engineers provided for by this Act.

Registration Board for Professional Engineers; Appointment of Members; Terms

Section 3. A Registration Board for Professional Engineers is hereby created, whose duty it is to administer the provisions of this Act. The Board shall consist of five professional engineers, who shall be appointed by the Commissioners of the District of Columbia and shall have the qualifications required by section 4. The members of the first Board shall be appointed within ninety days after the passage of this Act, to serve for the following terms: One member for one year, one member for two years, one member for three years, one member for four years, and one member for five years from the date of their appointment, or until their successors are duly appointed and qualified. Every member of the Board shall receive a certificate of his appointment from the Commissioners of the District of Columbia and, before beginning his term of office, shall file with the secretary of the Commissioners his written oath or affirmation for the faithful discharge of his official duty. Each member of the Board first appointed hereunder shall receive a certificate of registration under this Act from said Board. On the expiration of the term of any member. the Commissioners of the District of Columbia shall appoint for a term of five years a registered professional engineer, having the qualifications required by section 4, to take the place of the member whose term on said Board is about to expire. Each member shall hold office until the expiration of the term for which such member is appointed or until a successor shall have been duly appointed and shall have qualified.

Qualifications of Members of Board

Section 4. Each member of the Board shall be a citizen of the United States and a resident of the District of Columbia or its metropolitan area and shall have been engaged in the practice of the profession of engineering for at least twelve years, and shall have been in responsible charge of engineering work for at least five years.

Compensation and Expenses for Board Members

Section 5. Each member of the Board shall receive $1 per annum, and, in addition thereto, shall be reimbursed for all actual traveling, incidental, and clerical expenses necessarily incurred in carrying out the provisions of this Act.

Removal of Members of Board; Vacancies

Section 6. The Commissioners of the District of Columbia may remove any member of the Board for misconduct, incompetency, neglect of duty, or for any other sufficient cause. Vacancies in the membership of the Board shall be filled by appointment by the Commissioners of the District of Columbia for the unexpired term as provided in section 3.

Organization and Meetings of the Board

Section 7. The Board shall hold a meeting within thirty days after its members are first appointed, and thereafter shall hold at least two regular meetings each year. Special meetings shall be held at such times as the by-laws of the Board may provide. Notice of all meetings shall be given in such manner as the by-laws may provide. The Board shall elect annually from its members a chairman, a vice-chairman, and a secretary.

A quorum of the Board shall consist of not less than three members.

Powers of the Board

Section 8. The Board shall have the power to make all by-laws and rules, not inconsistent with the Constitution of the United States and laws of the District of Columbia, which may be reasonably necessary for the proper performance of its duties and the regulations of the proceedings before it. The Board shall adopt and have an official seal. In carrying into effect the provisions of this Act, the Board may, under the hand of its chairman and the seal of the Board, subpoena witnesses and compel their attendance, and also may require the production of books, papers, documents, and so forth, in a case involving the revocation of registration, or practicing or offering to practice without registration. Any member of the Board may administer oaths or affirmations to witnesses appearing before the Board. If any person shall refuse to obey any subpoena so issued—or shall refuse to testify or produce any books, papers, or documents—the Board may present its petition to the District Supreme Court, setting forth the facts, and thereupon such court shall, in a proper case, issue its subpoena to such person, requiring his attendance before such court and there to testify or to produce such books, papers, and documents as may be deemed necessary and pertinent by the Board. Any person failing or refusing to obey the subpoena or order of the said court may be proceeded against in the same manner as for refusal to obey any other subpoena or order of the court.

Receipts and Disbursements

Section 9. The secretary of the Board shall receive and account for all moneys derived under the provisions of this Act and shall keep such moneys in a separate fund to be known as the professional engineers' fund. Such fund shall be paid out only by the secretary, upon itemized vouchers approved by the chairman and attested by the secretary of the Board. All moneys in the professional engineers' fund are hereby specifically appropriated for the use of the Board. The secretary of the Board shall give a surety bond to the Commissioners of the District of Columbia in such sum as the Board may determine. The premium on said bond shall be regarded as a proper and necessary expense of the Board and shall be paid out of the professional engineers' fund. The secretary of the Board shall receive such salary as the Board shall determine, in addition to the compensation and expenses provided for in section 5. The Board may employ such clerical or other assistants as are necessary for the proper performance of its work or may make expenditures of this fund for any purpose which, in the opinion of the Board, is reasonably necessary for the proper performance of its duties under this Act. Under no circumstances shall the total in payment of the expenses and compensation provided for in this Act exceed the total sum of the examination and registration fees collected as herein provided.

Records and Reports

Section 10. The Board shall keep a record of its proceedings and a register of all applications for registration, which register shall show (a) the name, age, and residence of each applicant; (b) the date of the application; (c) the place of business of each applicant; (d) his educational and other qualifications; (e) whether or not an examination was required; (f) whether the applicant was rejected; (g) whether a certificate of registration was granted; (h) the date of the action of the Board; and (i) such other information as may be deemed necessary by the Board.

The records of the Board shall be prima-facie evidence of the proceedings of the Board set forth therein, and a transcript thereof, duly certified by the secretary of the Board under seal, shall be admissible in evidence with the same force and effect as if the original were produced.

Annually, as of June 30, the Board shall submit to the Commissioners of the District of Columbia a report of its transactions of the preceding year, and shall also transmit a complete statement of the receipts and expenditures of the Board, attested by affidavits of its chairman and its secretary.

Roster of Registered Engineers

Section 11. A roster showing the names and places of business of all registered professional engineers shall be prepared by the secretary of the Board as of June 30 of each year following the passage of the Act. Copies of this roster shall be mailed to each person so registered, and shall be placed on file with the secretary of the Commissioners of the District of Columbia and furnished to the public upon request.

General Requirements for Registration

Section 12. The following shall be considered as minimum evidence satisfactory to the Board that the applicant is qualified for registration as a professional engineer, to wit:

(a) Graduation from an approved course in engineering of four years or more in a school or college approved by the Board as of satisfactory standing; and a specific record of an additional four years or more of active practice in engineering work, of a character satisfactory to the Board, and indicating that the applicant is competent to be placed in responsible charge of such work; or

(b) Successfully passing a written, or written and oral, examination designed to show knowledge and skill approximating that attained through graduation from an approved four-year engineering course; and a specific record of eight years or more of active practice in engineering work of a character satisfactory to the Board and indicating that the applicant is competent to be placed in responsible charge of such work; or

(c) A specific record of twelve years or more of lawful active practice in engineering work of a character satisfactory to the Board and indicating that the applicant is qualified to design or to supervise construction of engineering works and has had responsible charge of important work for at least five years and provided applicant is not less than thirty-five years of age; or

(d) Graduation from an approved course in engineering of four years or more in a school or college approved by the Board as of satisfactory standing; a specific record of an additional two years or more of active practice in engineering work; and successfully passing a written, or written and oral, examination designed to show the fitness of the applicant to take responsible charge of engineering work; and provided applicant is not less than twenty-four years of age; *Provided,* That no person shall be eligible for registration as a professional engineer who is not of good character and reputation.

In considering the qualifications of applicants, responsible charge of engineering teaching may be construed as responsible charge of work. The satisfactory

completion of each year of an approved course in engineering in a school or college approved by the Board as of satisfactory standing, without graduation, shall be considered as equivalent to one year of active practice:

Provided, however, that no applicant shall receive credit for more than four years of active practice because of educational qualifications. Any person having the necessary qualifications prescribed in this Act to entitle him to registration shall be eligible for such registration though he may not be practicing his profession at the time of making his application.

The Board shall make an investigation of the character, reputation, and ability of each applicant; at least five references being secured from previous employers during the last twelve years' experience of the applicant.

Application and Registration Fees

Section 13. Applications for registration shall be on forms prescribed and furnished by the Board, shall contain statements made under oath or affirmation showing the applicant's education and detail summary of his technical work, and shall contain not less than five references, of whom three or more shall have personal knowledge of his engineering experience.

The registration fee for professional engineers shall be $25, $15 of which shall accompany applications, the remaining $10 to be paid upon issuance of certificate. Should the Board deny the issuance of a certificate of registration to any applicant, the initial fee deposited shall be retained as an examination fee.

Examinations

Section 14. When oral or written examinations are required, they shall be held at such time and place as the Board shall determine. The scope of the examinations and the methods of procedure shall be prescribed by the Board with special reference to the applicant's ability to design and supervise engineering works, which shall insure the safety of life, health, and property. A candidate failing on examination may apply for reexamination at the expiration of six months and will be reexamined without payment of additional fee. Subsequent examination will be granted upon payment of a fee to be determined by the Board.

Certificates; Seals

Section 15. The Board shall issue a certificate of registration, upon payment of registration fee as provided for in this Act, to any applicant who, in the opinion of the Board, has satisfactorily met all the requirements of this Act. In case of a registered engineer, the certificate shall authorize the practice of "professional engineering". Certificates of registration shall show the full name of the registrant, shall have a serial number, and shall be signed by the chairman and the secretary of the Board under seal of the Board.

The issuance of a certificate of registration by this Board shall be evidence that the person named therein is entitled to all the rights and privileges of a registered professional engineer while the said certificate remains unrevoked.

Each registrant hereunder shall upon registration obtain a seal of the design authorized by the Board, bearing the registrant's name and the legend "Registered Professional Engineer". Plans, specifications, plats, and reports issued by a registrant shall be stamped with the said seal during the life of a registrant's certificate, but it shall be unlawful for anyone to stamp or seal any documents with said seal after the certificate of the registrant named thereon has been revoked unless said certificate shall have been renewed or reissued.

Renewals

Section 15A. Certificates of registration shall expire on the last day of the month of June following their issuance or renewal and shall become invalid on that date unless renewed. It shall be the duty of the secretary of the Board to notify every person registered under this Act of the date of the expiration of his certificate and the amount of the fee that shall be required for its renewal for one year; such notice shall be mailed at least one month in advance of the date of the expiration of said certificate. Renewal may be effected at any time during the month of June for a period of one year by the payment of a fee of not more than $3 for any year, or as may be fixed by said Board. The failure on the part of any registrant to renew his certificate upon expiration in the month of June, when notified as required above, shall not deprive such person of the right of renewal, but the fee to be paid for the renewal of a certificate after the month of June shall be increased 10 per centum for each month or fraction of a month that payment of renewal is delayed: *Provided, however,* That the maximum fee for delayed renewal shall not exceed twice the normal renewal fee in any calendar year.

Firms, Partnership, Corporations, and Joint-Stock Associations

Section 16. A firm, or a copartnership, or a corporation, or a joint-stock association may engage in the practice of professional engineering in the District of Columbia only provided such practice is carried on under the responsible direction of one or more registered professional engineers.

Practitioners at Time Act Becomes Effective

Section 17. At any time within one year after this Act becomes effective, upon due application therefor and the payment of a fee of $25, the Board shall issue a certificate of registration, without oral or written examination, to any professional engineer who shall submit evidence under oath satisfactory to the Board that he is of good character, has been a resident of the District of Columbia or its metropolitan area for at least one year immediately preceding the date of his application, and was practicing professional engineering at the time this Act became effective, such work being of a character satisfactory to the Board.

After this Act shall have been in effect one year the Board shall issue certificates of registration only as provided for in sections 12 and 19 thereof.

Exemptions

Section 18. The following persons shall be exempted from the provisions of this Act, to wit:

(a) A person not a resident of and having no established place of business in the District of Columbia practicing or offering to practice herein the profession of engineering, when such practice does not exceed in the aggregate more than sixty days in any calendar year: *Provided,* That such person is legally qualified by registration to practice the said profession in his own State or country in which the requirements and qualifications for obtaining a certificate of registration are not lower than those specified in this Act.

(b) A person not a resident of and having no established place of business in the District of Columbia

(*Continued on page* 24)

ETHICS AND ORGANIZATION

Societies of Professional Men

Must Avoid Suppressive Policies That Do Not Serve Public Welfare

By
D. W. BLAKESLEE

THE engineer deals in realities of the materialistic world ruled by natural law. He realizes that the ethics of his profession is of practical value; if followed, his welfare is advanced, his profession progresses and so does civilization.

The engineer understands that right and wrong are only relative terms and that that which is "right" for one individual may be "wrong" for another, depending upon their viewpoints. As a loyal employee he does what is right from the viewpoint of his employer, in his professional society he does what is right from the viewpoint of the majority of engineers, as a true representative of the public he does what is right from the viewpoint of the majority of citizens. The engineer does what is right because he knows it pays to be honest. He cannot be honest with his employer and the public unless he has first learned to be honest with himself and his fellow engineers.

The engineer has developed knowledge of the necessity for investigation, experimentation, tests (science), he has produced a type of education and training which has resulted in the highest professional common sense which makes possible sound analytical judgment, true vision and practical planning. But he has so concentrated his forces upon the inanimate materials with which he deals that he has not realized, until of late, that he has contributed most to the enlightenment of all nations and races of the earth.

Busy with his technological developments and operations, the engineer has left in the hands of lawyers and so-called "politicians" the social, economic and political activities of his community, state and nation, with the result that the engineer now finds himself, along with the general public, depressed into a destitution, which is the effect of causes he might have prevented.

The engineer is rapidly becoming social-minded because unemployment has forced his attention upon, and provided him with time to study, the political and economic structure of society, of which he now realizes he is a part. The engineer's mental constitution and his economic position in society has caused him to select as his primary objective: "To secure the enactment of legislation for the protection of the public against exploitation." (Architects and Engineers Advisory Council of the State of New Jersey).

The engineer now realizes that it is suicidal to concentrate on the subject in which he has specialized to the extent that he has no time to contribute to the advancement of the general welfare of society. He knows that he can have no economic security operating as a rigged individual, but on the other hand knows he can secure social economic security by organized effort. The result of this knowledge is that he has organized his professional engineering society for such an object.

The success of the engineers professional society, measured in results produced, will depend upon the continued action of the members as engineers instead of like lawyers or politicians. The problems must be attacked by the engineering approach, end in a scientific solution by considering cause and effect relationships of all factors, and the results published in such clear language that they may not be misunderstood.

So that the engineers society may function as a society of engineers it must grow, as it came into being, according to natural democratic demand. The great majority of engineers are employees, selling their social service thru an employer, who is in business to sell to the consumer at a profit. On the other hand most lawyers and doctors sell direct to the consumer without being forced to produce profit for an employer. To best serve the majority, the engineers society must be controlled by the employee, because of the difference in viewpoints. As engineer employee would not adopt the dictatorial policy of using force upon his fellows "whether they liked it or not." He greatly desires to be a member of the engineers professional society, if it is democratic; he now realizes that his personal interest is identical with that of the general public.

The average lawyer, doctor, and employer engineer is most likely to be indifferent to the public welfare because they are individualists who, under our competitive system, do certain things under economic necessity; one of these is to pay their employees the lowest possible wages. To get these competitors to co-operate, a type of dictatorship must be used. But this method will not be successful with the majority of engineers.

To get employees to work in co-operation another type of dictatorship is advocated by some. For ignorant workers just emerging from a condition of feudalism, such type may be necessary to rapidly develop the machinery of production and transportation. For those with a little learning, "innocent clubs" are organized to induce employees to join a movement without realizing what they are doing. These dictatorships are not needed in the United States of America nor for professional engineers anywhere.

The engineer realizes that natural laws are stronger than man made laws; the lawyer is guided by philosophy, but the engineer by science; they do not use the same methods of thinking. The lawyer writes down the results of his labors so that they may be interpreted in different ways; the answer to the engineer's problem must mean but one thing. The lawyer may write to mislead or delude as when he uses the word "integrated" in connection with his professional organization, which the members understand to mean a dues

(*Continued on page* 24)

ITEMS OF GENERAL INTEREST

REPORTS, NEWS, COMMENTS

STATE ACTIVITIES

Correspondents and readers are invited to submit for publication items of interest to the professional engineer of the country. Such material should be forwarded as quickly as possible in order to keep news up to date.

N. S. P. E. NEWS

By

W. S. CONLON

Legislation

S. 2665—designed to change the name of the Department of Interior to the Department of Conservation and Works, which is now on the Senate calendar, will no doubt be adversely effected by another bill H. R. 11642 introduced in the House on March 5, 1936 by Congressman John J. Dempsey of New Mexico. The bill was referred to the Committee on The Public Lands and ordered to be printed. "H. R. 11642—A Bill to change the name of the Department of the Interior, to be known as the Department of Conservation. Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Department of the Interior shall hereafter be called and known as the Department of Conservation, and the Secretary of the Interior shall be called and known as the Secretary of Conservation, and all of the provisions and sections of titles IV and XI of the Revised Statutes, including all Acts supplementary thereof and amendatory thereto, are hereby amended accordingly." A copy of this Bill has been referred to Chairman Sacks of the Legislative Committee and your comments should be addressed to him.

District of Columbia

H. R. 11853 and S. 4443 designed to enact an engineering registration law in the District of Columbia and referred to elsewhere in this issue, in bulletins No. 17 and 18, dated March 18, 1936 and April 8, 1936 respectively, are still in committee. S. 4443 has been referred to the District Commissioners also, and the Engineer Commissioner, Colonel Dan Sultan, should receive assurance through correspondence, telegrams, etc., from those interested in having this progressive legislation enacted, that the engineering profession is counting on his support of this bill.

Membership

N. S. P. E. records a total of over 600 new members since January 1st. All state secretaries have received a generous supply of new booklets. Get one, place it in the hand of a prospective member and secure his application. The goal of new members to be secured this year is 4,000. It can be done, if each and every engineer will lend his efforts to build the membership. We are all members of the membership committee.

1936 *Convention*

Right now you are thinking of your vacation; well just mark off your calendar and reserve October 12th and 13th for that trip to Washington, D. C., for the Second Annual Convention of the National Society of Professional Engi-

(*Continued on page* 23)

ENGINEERING OPPORTUNITY

Panama Canal Service

Wanted For The Panama Canal

A vacancy exists at present in the position of Assistant Electrical Engineer (Electrical Designer) Professional Service, Grade 3, at an entrance salary of $333.33 a month for duty with the Panama Canal in the Canal Zone.

The specifications for this position are as follows:

DUTIES: Under general supervision, with considerable latitude for independent decision to prepare and supervise the preparation of plans, specifications, and estimates of materials for power, light and signal installations in residences, offices, stores, hospitals, schools, shops, industrial buildings and marine equipment; for indoor and outdoor substations; for 220-volt switchboards; for ventilating systems; for small refrigerating systems. Preparation of plans, both electrical and mechanical, for small hoists, etc. Preparation of specifications for the purchase of electrical equipment, mechanical equipment, pumping equipment, etc.

MINIMUM QUALIFICATIONS: — Completion of a course in electrical or mechanical engineering in a college or university of recognized standing, with not less than 3 years experience in the performance of the duties outlined above. Knowledge of machine shop methods and knowledge of the uses of recently developed metals as applied to machines and bearing surfaces is desired.

All applicants must be in good health and physically sound. They must be American citizens, preferably not over 45 years of age, and if foreign born must submit their final certificate of naturalization with their application, or that of their father if they claim citizenship through him, which will be returned promptly.

In case of appointment free steamship transportation would be furnished from New York or New Orleans to the Isthmus, salary beginning on date of sailing, but appointee must pay his own railroad fare to port of sailing.

Application for this position should be filed on Form 115, accompanied by a recent unmounted photograph of the applicant, a good postcard or Kodak photo being satisfactory. The application should also be accompanied by a statement amplifying the applicant's training, qualifications and experience. Names and addresses of references should be written clearly in answer to this question on the back of the application form. All papers should be returned to: "Chief of Office, The Panama Canal, Washington, D. C."

Applications after proper completion from those who appear to fully meet the requirements will be forwarded by this

(*Continued on page* 23)

WASHINGTON, D. C.

A. S. H. V. E. Supports Registration

At a special meeting, held early in March, the American Society of Heating and Ventilating Engineers endorsed the Registration measure now before the Congress.

ON CAPITAL REGISTRATION

From Washington Star, April 3, 1936

By GEORGE E. GEYER

Law Needed to Regulate Engineering in District

To the Editor of The Star:

In view of current events in the House District Committee, your comment on the "whitewashed" elevator investigation is both commendable and timely.

Washington has had more than its share of avoidable accidents in public structures. And, unlike most States, it is without any disciplinary regulation governing the practice of those persons who are primarily responsible for public catastrophes, the designing engineers.

Thirty-five States now have laws licensing the practice of professional engineering within their borders, and 10 additional States have similar acts pending. In such States, as in the practice of medicine, dentistry, or law, any professional laxity or malpractice is punishable by revocation of the license issued to the responsible engineer. In the District of Columbia, the situation is quite the reverse. An investigation is held, the incident is termed an accident, and the engineering quack is still allowed to run at large and peddle his satanic wares.

Three years ago, H. R. 8220, a bill for the licensing of professional engineers, was introduced in the House District Committee by Mrs. Mary Norton. Subsequent hearings developed arguments against such a law which in the light of past catastrophes might be classed as asinine.

For instance, the District Commissioners, in their negative report, claimed that civil service examinations were sufficient protection in the selection of engineers. Since when did civil service hold written professional examinations for those grades above junior engineer? And in how many cases does the Federal Government have supervision over private building? And with a slashed budget in prospect for the District, how in all reason can the understaffed building inspector's office be expected to satisfactorily examine the present volume of construction?

Another group, the American Institute of Mining and Metallurgical Engineers, claimed that the District building code maintained satisfactory safeguards over life and property. In view of the Knickerbocker Theater incident and other similar failures, this type of argument needs no comment. To err is hu-

(*Continued on page* 18)

NEW JERSEY

Society Issues Appeal

Following is a copy of a bulletin issued by the State Association:

An Appeal to All Licensed Engineers and Land Surveyors in New Jersey

The unsatisfactory status of the Engineer during recent years has served to awaken in him a consciousness that he himself is in large part responsible for the conditions which confront him, and that no improvement can be attained without earnest effort on his part to place the profession in its proper role as a vital unit in the sphere of public activities. In the past he has remained entirely aloof from all interests which did not concern him technically, with the result that when the nation was faced with economic collapse, he was among the first to suffer the hardships of privation, and was almost entirely overlooked in the widespread emergency efforts to plan for general recovery. We feel that this lack of recognition of the engineer as an important aid in the solution of the social and economic problems of the present day represents a distinct loss to the public welfare, and to correct this attitude, we have organized the profession into National, State and local units.

It is the duty of all licensed engineers to affiliate themselves with these bodies, dedicated to their welfare and pledged to the mutual benefit and protection of the interests of its members. Let those of us who have been fortunate enough to remain employed during this period of depression cast aside the veil of indifference which has concealed from us the deplorable state in which the engineer in general has been placed, and help not only to improve present conditions, but prevent a recurrence of them by uniting with your fellow practitioners in presenting for public recognition, the qualifications of the engineering profession for leadership in and planning and execution of social and economic programs. Your individual support is essential for the success of this movement, and you cannot afford to deny it to yourself or the profession.

Some of the more important accomplishments of the National Society of Professional Engineers during its first year of existence are listed below:

1. Stimulated and assisted in the organization of State Societies of Professional Engineers in several additional States and inspired existing Engineering Societies in two States to reorganize as State Societies of Professional Engineers.

2. Assisted sixteen additional States in drafting and securing registration laws.

3. Brought eight State Societies of Professional Engineers together in mutual cooperation as Member State Societies of the National Society of Professional Engineers.

4. Organized a District of Columbia Society of Professional Engineers with Chief Engineers of Government Departments as charter members.

5. Secured the active cooperation of U. S. Department of Labor, the Associated Press, the United Press and individual newspapers in our campaign to restrict the designation "Engineer" to members of our profession and to substitute the designation "Engineman" for those who operate locomotives or engines.

(*Continued on page* 18)

TEXAS

Organization Continues

From the correspondence exchanges between Texas, Washington and New York there is a manifest spirit and enthusiasm which promises a strong and militant Professional Society for the Lone Star State.

The recent comments of E. Bernard Meyers, President of the American Institute of Electrical Engineers, suggest that certain influences appreciate that the professional society movement is closely identified with registration. The attempts to retard registration by suggesting individual initiative as more effective for professional advancement can scarcely influence any worthwhile citizen. One wonders if Mr. Meyers would offer the same arguments in New Jersey, which has a law, as in Texas which will soon have one.

A noteworthy effort is that from a real professionally minded engineer of Texas to bring about a State Society in the north. The endeavors promise to bear fruit shortly.

The promptness of Texas in forwarding dues merits an expression of appreciation.

Engrs. Beretta, Steinman and Conlon vie with one another in the promptness of their exchanges.

CONNECTICUT

Holds Annual Meeting

The second Annual Meeting of the Connecticut Society was held at the Algonquin Club, in Bridgeport, on March 28.

Following are reports from the press of Bridgeport:

H. E. HARRIS HEADS STATE ENGINEERS

Slate Elected at Meeting Here; Discuss Flood Control

Harry E. Harris of this city was elected president of the Connecticut Society of Professional Engineers at the second annual meeting of the organization yesterday afternoon at the Algonquin club.

Other officers named were Charles P. McClinch of Bridgeport, first vice-president; Francis Cappabianco of Stamford, second vice-president; J. R. MacIntyre of Norwalk, secretary; O. S. Wendell of Stamford, treasurer and Elmer Beard and William Vaughn, both of Stamford and Carl Gotthardt of Bridgeport, auditors.

National Director

J. W. Cone of Greenwich, member of the State Board of Engineers' registration, was named national director from Connecticut and chairman of the State Committee on Ethics and Practice.

The slate, drafted by a committee headed by Leon E. Tuttle, was adopted as presented.

During a morning session, the Society adopted a resolution suggesting that the nation appropriate funds for scientific control, for creation of a unified engineering control for each drainage area, working under a central coordinating engineering authority, and for surveys of all tributary stream sources in the flood area.

Judge Miller Speaks

At a noon luncheon, Judge Paul L. Miller of this city, who acted as counsel for the organization in 1935 when pass-

(*Continued on page* 18)

OHIO

President Steinman to Address Cuyahoga Society

The Cuyahoga Society of Professional Engineers will hold its meeting at Cleveland, on May 12th. D. B. Steinman, President of the National Society will be the principal speaker. A record attendance is looked for and a cordial invitation is extended to engineers of Cleveland and its environs.

COUNTY ENGINEERS

Secretary John Laylin has forwarded the following advice to members of the Ohio Society:

OHIO SOCIETY OF PROFESSIONAL ENGINEERS
Columbus, Ohio
April 6, 1936

Fellow Engineer:

We are inclosing you list of filings for nomination to the office of county engineer in nearly all of the counties of Ohio.

This list has been prepared from cards sent into this office from the various counties, and should be reasonably correct.

You will note that considerably more than one-half of those filing are members of Ohio Society of Professional Engineers, and we hope that when a full and complete list including all counties is prepared and distributed, it will show 100 per cent membership.

Thanking you for your cooperation, and with our kind regards, we are

Very truly yours

Ohio Society of Professional Engineers
JOHN LAYLIN, *Secretary.*

Meigs County, Theodore Beegle; Mercer County, F. D. Kuckuck; Miami County, *Maurice A. Gantz; Monroe County, *Frank Starkey, *Glenn W. Kirkman; Montgomery County, *Victor C. Smith, Wesley O. Pease, Carl H. Bauer; Morgan County, *F. C. Smith; Morrow County, Kenneth B. Graham; Muskingum County, *William H. Neikirk, *John W. Alter, *H. P. Christy, R. W. Painter; Noble County, *Grover C. Smith, S. G. Brown, Homer H. Weedon; Ottawa County, *Virgil A. Frye, Ervin Beebe, Reigel E. Fetterman.

Paulding County, *Henry Green, Chas. A. Dunakin; Perry County, *John W. Taylor, John Avery, M. A. Wheatcraft; Pickaway County, *Ralph V. Wood, M. C. Chamberlain, H. G. Griner; Pike County, W. L. Sheridan; Portage County, *Harold L. Hubbell, P. C. Shafer; Preble County, *Otha Heckathorn, Jos. N. Jones; Putnam County, *J. T. Maidlow, *L. H. Schmenk; Richland County, *Howard C. Sword, Kenneth P. Shaffer; Ross County, *John Schweitzer, *Edgar B. Hess, James L. Heath.

Sandusky County, *George M. Lieber, *J. H. Wensinger, I. E. Amsden, Leroy C. Roush; Scioto County, *Arthur H. Peake, *O. Carson Barklow, Charles Noel; Seneca County, *Chalmer Mohr; *Harold Z. Hakes, *A. A. Joseph, *Chas. Latshaw, *Roswell C. Leahy; Shelby County, Earl C. Woddell, Eugene H. Blake, C. Allen Maurer; Stark County, *Wade W. Shidler, Luther K. Zerbe; Summit County, *Hal G. Sours, *Arthur F. Ranney; Trumbull County, *Royal H. Sillitoe, Harry L. Dittmar, Charles H. Lawrence, John Deak Jones; Tuscarawas County, *George E. Arnold, *Ray L. Bell, E. R. McCullough.

(*Continued on page* 20)

WASHINGTON

(*Continued from page* 16)

man; to persist in known errors is no less than devilish!

Today H. R. 11853, another bill to regulate the practice of professional engineering, has been "delayed" by the subcommittee on legislation in the House District Committee. This same committee has already acted on a bill to govern the operation of beauty shops!

The ghastly spectres of past catastrophes justify the enactment of such progressive legislation as H. R. 11853. To allow the recurrence of engineering failures through non-regulation of professional engineers and the elimination of the charlatan would be classed as criminal negligence on the part of responsible authorities.

NEW JERSEY

(*Continued from page* 17)

6. Launched the campaign to secure the establishment of a permanent Department of Public Works in the National Government, to be headed by an engineer in the President's Cabinet as Secretary of Public Works, and supported legislation (S. 2665) subsequently introduced toward that objective.

7. Established National Headquarters at Washington, D. C., to serve as a point of contact, on behalf of all professional engineers, with legislators and Government authorities at the Nation's capital, and placed the Washington office at the disposal of unemployed professional engineers to establish contacts with available appointments in Federal departments and agencies.

8. Supported and assisted in the enactment of laws and regulations benefiting the Engineers and the Engineering Profession and successfully opposed legislation detrimental to the Engineer and his interests.

9. Established the publication of the "American Engineer" as a national non-technical magazine, devoted to the professional, social and economic interests of the Engineer.

The above is a record of which to be justly proud.

It is your duty to yourself and to your profession to assist in the continuation of the good work that has been so energetically started. Only by a united front can we succeed. Let us place New Jersey at the top of the Member State Societies.

The N. J. State Association of Professional Engineers and Land Surveyors is a sub-division of the National Society and its aims and functions are similar to those mentioned above, although its field of activity is limited to the State. Its importance as a local unit is equally as great as that of the National Society in the Nation.

In like manner, the County Chapter is a sub-division of the State Association and is the primary unit on which both the State and National organizations are founded. It serves as the medium for the actual personal contact of the individual with his fellows, and is the agent for initiating any action considered of interest to the profession. Membership in the Professional Engineers Society is instituted in the Chapter and it serves as the collecting agency for dues assessed for the support of the National Society, State Association and Chapter.

Membership and Dues

Membership in any one of the three units making up the collective organization of the Profession implies membership in the other two. In other words, it is impossible to be a member of the National Society alone, the State Association alone or the County Chapter alone.

While we have not as yet established chapters in every county, we have endeavored to make it possible for engineers residing in counties having no chapter to affiliate with a neighboring county in which a chapter has been organized. It is strongly urged that advantage be taken of this arrangement for the benefits to be derived therefrom until a chapter is chartered in your own county.

The dues payable by members are as follows:

National Society	$3.00
Subscription to The American Engineer	1.00
State Association	3.00
Sub-total	$7.00

To this is to be added the dues assessed by the County Chapter, which appears on the enclosed bill. If you live within the jurisdiction of a County Chapter you are presumed to be a member of that chapter and the assessment is to be included in your payment. On the other hand, payment of county dues alone without the $7.00 for National and State dues cannot be accepted.

If you find it impossible to make a full payment at one time, the Board of Trustees has agreed to accept it in three installments, namely:

1st Installment	
National Society and magazine	$4.00
2nd Installment	
State Association	3.00
3rd Installment	
County Chapter	as noted on bill

It will be appreciated, however, if all who can possibly do so will pay in full on receipt of bill.

All payments are to be made directly to the Treasurer of the County Chapter, excepting members not within the jurisdiction of any chapter. These latter will not be assessed county dues and they will make payment directly to Trevor J. Powell, Treasurer of the State Association.

The National Society has established permanent headquarters in Washington, D. C., and the State Association as well as the various County Chapters have instituted numerous activities on your behalf all of which have incurred expenditures which must be met by the prompt payment of dues. Will you not therefore do your part in remitting upon receipt of your bill?

Conclusion—

All of the standing committees have been organized and are composed of men who are prepared to work energetically for the welfare of the profession. The Membership, Legislative, Ethics, Prosecutions and Public Relations Committees will welcome all suggestions and constructive criticisms and you are urged to cooperate with them in the important functions which they have to perform.

It is hoped that by this notice I have been able to bring before you the necessity for the organized effort of Professional Engineers and the importance of the three distinct and at the same time integrated units, based on geographical boundaries. The financial investment you are asked to make in support of this organization is the minimum possible to meet its expenses, and is indeed trifling compared to the purposes and objectives toward which it is devoted, and which will be achieved by the strength of cooperative interest.

I make this personal plea on behalf of the Engineering Profession.

GEORGE F. RANDOLPH,
President.

CONNECTICUT

(*Continued from page* 17)

age of the Engineers' Registration act was being sought, was the guest speaker. He reviewed his activities and those of the organization's members to have the act passed, and of the difficulties encountered, and overcome to make the act a law.

He pointed out the analogy between the Professional Engineers and the American association, emphasizing the great value the Professional Engineers association proves not only to its membership but to the communities it serves as well.

It was reported that the membership of the group has grown considerably since the Engineers' registration act was passed, applications of engineers who successfully passed the state qualifications being received in large numbers since the passage of the act.

Status Of Engineers

Cone told the delegates that those engineers who have not received any word from the State board although they have taken the tests should not be worried as no penalties will be levied on non-registered engineers until after Jan. 1, 1937. Any professional engineer who has filed an application will be free to practice without fear of prosecution until he has passed, or his application is rejected, he said.

Considerable business of the association was transacted, important communications read and approved and other matters pertaining to the profession discussed. The next meeting of the group will be held in July and tentative plans seek to have it combined with a summer outing.

Resolution Offered

The flood resolution, offered by the Resolutions committee, expresses the fear that "the probable hurried and improperly planned restoration of the devastated areas will increase future dangers and waste billions."

Selection of all the engineers and assistants under the proposed flood control, the resolution emphasized, should be made on a basis of merit.

Cites Disaster

The resolution attributes the magnitude of the disaster "to the non-correlated and fragmentary, though extensive expansion of civilization and industry, and the growth of the urban population, attended by the denudation of forest land, the filling in and diversion of tributary streams, weak dams, both large and small, the decay of old mill dams that are no longer in use, insecure and low bridges, the lack of dikes at

narrow channels, the absence of planned reservoir basins, etc."

PLANNED FLOOD CONTROL IS URGED BY ENGINEERS

Connecticut Society of Professional Engineers Adopt Resolution Calling For Coordination of Work—Elect Officers Today

Coordination between the state and Federal governments with a view to the establishment of a central engineering authority was strongly advocated in a resolution adopted today by the Connecticut Society of Professional Engineers at its second annual meeting held at the Algonquin club here.

Submitted by the resolution committee, of which Elmer H. Beard is chairman, the engineers' statement outlines four points for a more efficient flood control. Salient features of the four-point outline are suggestions that funds be appropriated by Congress and state legislatures for the achievement of scientific control through thorough investigation and supervision carried out by fully qualified engineers selected solely on reputation and ability with the absence of any political preferment.

The resolution declares that "the magnitude of the present national calamity is principally due to the non-correlated though extensive expansion of civilization and industry, and the growth of urban populations, attended by the denudation of forest land, the filling in and diversion of tributary streams, etc."

Outlines Plan

A comprehensive engineering plan covering each drainage area, a proper system of dams, dikes, embankments, control reservoirs, lakes and ponds, ice breakers and deflectors, channels, levees, government controlled relief gates and ice destruction, reforestation, etc., will not only prevent recurrences of flood calamities, but will cost less than the effects of a single recurrence and will produce a collection of most valuable future assets it is suggested.

The resolution urges every professional engineer and organization of the nation to use their individual and collective power to see that the objects of the resolution are accomplished in order that an enlightening service of inestimable value may be performed for the country.

Copies of the resolution are being sent to President Franklin D. Roosevelt, to Governor Wilbur Cross, to the National Society of Professional Engineers and to several other groups.

Today's meeting will attract engineers from all sections of Connecticut. The group will pass judgment during the business session today on several matters that have cropped up during the year. A letter from State Senator Alber E. Eccles suggesting that the Connecticut body take definite action toward prevention of future floods was read to the engineers.

J. Gerald Phelan, of Bridgeport, is chairman of the committee in charge of today's program.

The retiring officers are Harry E. Harris, of Bridgeport, president; Z. F. Cappabianca and Joseph O. Kelley, vice-presidents; Chester S. Wendell, treasurer; and James R. MacIntyre, secretary. Other members of the board of directors are Michael Mascia, E. Borgrafe, John W. Shallenberger, Carl Gotthardt, William P. Little, Herbert C. Elton, Elmer H. Beard, B. L. Bilderbeck and Claude T. Wilson.

Among the resolutions adopted were the following:

RESOLUTION

Installation of Power Plants and Boilers In Industrial and Public Buildings and Buildings Used for Working, Living or Recreational Purposes

WHEREAS, the installation of boilers, firing equipment and appurtenances in a power plant, boiler room, industrial building, public building and buildings used for living, working, and recreational purposes, represents a hazard and danger to life and property to a degree commensurate with the design, features and method of application of any or all of this mechanical and electrical equipment, for generating steam, power, heat, light, etc.

WHEREAS, these hazards to life and property are explosion, fire, asphyxiation, smoke damage, soot accumulation, air pollution, clouded light conditions, escaping carbon monoxide, etc., due to defects, emanations and leakages from improperly installed boilers and furnaces and their controls and appurtenances.

WHEREAS, the future definitely indicates a general application of increased steam pressures on boilers and companionate equipment and higher volatilized combustibles and with accompanying higher temperatures plus complicated mechanized and electrified equipment, for serving the advancing and more complicated demands of communities and of the individual.

WHEREAS, in this country the only laws generally existant referring to boilers are those concerning the construction of the boilers, which construction is covered by the American Society of Mechanical Engineers Code, which Code refers to a limited extent to the installation of the boiler; and many states have boiler construction codes which have, to some degree, been copied from the American Society of Mechanical Engineers Code; and therefore any present state jurisdiction governing installation of boilers is rather incomplete; and there is no satisfactory state law governing the installation of boilers with their companionate mechanical and electrical equipment.

BE IT THEREFORE RESOLVED that the CONNECTICUT SOCIETY OF PROFESSIONAL ENGINEERS, recognizing this serious situation affecting the lives, health and property of the people of this country, propose and urge the enactment of laws, and the amendment of existing laws now designed or upon the statute books that refer to boilers, furnaces, firing equipment and appurtenances to insure as far as humanly possible the necessary safeguards obtainable through properly qualified supervision.

AND THEREFORE BE IT FURTHER RESOLVED that the CONNECTICUT SOCIETY OF PROFESSIONAL ENGINEERS propose and urge to representative legislators the enactment and amendment of State law to the effect "That any or all used or new boiler or boilers, firing equipment and piping and appurtenances, and any equipment for generating steam, power, heat, light, hot water, or steam for other purposes, is or are to be installed subject to plans and specifications prepared by a properly licensed, registered or certified professional engineer and the installation be supervised and approved by a properly licensed, registered or certified professional engineer, and, with a penalty upon any person who wilfully or knowingly violates any provision of this law of a fine not to exceed $500.00 or imprisonment for not more than three months or both; and with an appropriation sufficient for the printing and dissemination of the information of the Act."

AND BE IT FURTHER RESOLVED that the Legislative Committee of the CONNECTICUT SOCIETY OF PROFESSIONAL ENGINEERS be instructed to cooperate with the Legislative Committee of the NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS, with the Legislative Committees of the other member State Societies, with other Engineering, Civic and Political Groups, with the Grange and other Associations largely interested in public welfare and with Engr. George W. Dahm, toward the end of drafting and securing the enactment of such laws in the different States with as uniform reciprocal provision as is practicable to obtain.

RESOLUTION

On Flood Control

WHEREAS, the appalling loss of life, health, property and injury to the economic welfare of the nation and its people from the preventable devastation caused by uncontrolled flood conditions throughout the land can repeatedly occur with progressive aggravation under the present condition of our natural water sheds; and

WHEREAS, the magnitude of the present national calamity is principally due to the non-correlated and fragmentary though extensive expansion of civilization and industry, and the growth of the urban population, attended by the denudation of forest land, the filling in and diversion of tributary streams, weak dams, both large and small, the decay of old mill dams that are no longer in use, insecure and low bridges, the lack of dikes at narrow channels, the absence of planned reservoir basins, and so forth; and

WHEREAS, by comprehensive engineering planning covering each drainage area, a proper system of dams, dikes, embankments, control reservoirs, lakes and ponds, ice breakers and deflectors, channels, levees, relief gates and ice destruction, high and safe bridges, reforestation, etc., can be laid down that will not only prevent recurrences of flood calamities, but will cost less than the effects of a single recurrence, and furthermore will produce a collection of most valuable future assets; namely, (1) an augmented water supply now needed by our increasing population; (2) the prevention of the erosion and washing out of millions of tons of irreplaceable fertile and fertilized agrarian soil; (3) provision for the propagation of food fish; (4) supply of power at well distributed locations; (5) soil moisture retention for agriculture; (6) healthful recreation sites in waste lands; (7) beautified scenery; (8) control of water pollution; (9) contribution of many contingent benefits for the peoples of our growing civilization; and

WHEREAS, the probable hurried and improperly planned restoration of the devastated area will increase future dangers and waste billions;

THEREFORE, BE IT RESOLVED:

That THE CONNECTICUT SOCIETY OF PROFESSIONAL ENGINEERS does hereby urge and demand (1) that the several state governments and the Federal government combine to set up a UNIFIED ENGINEERING CONTROL for each drainage area, each reporting to a CENTRAL COORDINATING ENGINEERING AUTHORITY; (2) that funds be appropriated by Legislatures and the Congress for surveys extended to all tributary stream sources throughout the entire flood area by corps of qualified engineers; (3) that funds be appropriated by Legislatures and the Congress for the achievement of scientific flood control with attendant conservation planned and executed by fully qualified engineers; (4) that the selection of all executive and assistant engineers on the projects be non-partisan and free from political preferment, and that such selection be made entirely upon the basis of character, engineering ability and reputation.

FURTHERMORE, BE IT RESOLVED:

That every professional engineer in the country, every engineering organization in the land, be urged to use their individual and vast collective power to see that the objects of this RESOLUTION are accomplished; that friendly effort and argument, political pressure and publicity be brought to bear by them for the attainment of this end, thus performing an enlightening service of inestimable value to our country.

AND FURTHERMORE BE IT RESOLVED:

That a copy of this RESOLUTION be sent to the President of the United States of America, to the Governor of Connecticut, to the National Society of Professional Engineers and all other State Societies of Professional Engineers, to the "American Engineer" and to other engineering organizations of the United States of America, to the Associated Press, to the United Press, to the newspapers of Connecticut, to the United States District Engineer and such others as the Executive Committee deems advisable, with a letter from our President urging their non-partisan support and endorsement of this RESOLUTION.

Respectfully submitted,
Committee on Resolutions.
(Signed) ELMER H. BEARD, *Chairman.*

Unanimously approved by the CONNECTICUT SOCIETY OF PROFESSIONAL ENGINEERS, INC., in convention assembled, at Bridgeport, Conn. on March 28, 1936.

Attest—James R. MacIntyre, Secretary.

OHIO

(*Continued from page* 17)

Union County, Walter E. Griffith; Van Wert County, *J. F. Mollenkopf, *Otto Witten; Vinton County, *J. M. Ogan, R. C. Hunt; Warren County, *Sam D. Henkle; Washington County, *Guy W. Ellis, *T. J. Farrell, *C. W. Stacey, E. R. Edmunds; Wayne County, *Paul E. Glasgow, F. D. Krichbaum; Williams County, Alfred L. Opdyke, Emerson D. Wertz; Wood County, *Edward F. Metzger, *John F. Gallier; Wyandotte County, Ora N. Essex, Virgil E. Shuler.

*Members of Ohio Professional Engineers Society.

No person shall be eligible as a candidate for the office of county engineer or be elected or appointed thereto, except a registered professional engineer and registered surveyor licensed to practice in the State of Ohio, and a county engineer serving at the time of election.

TRI-COUNTY SOCIETY

Publishes Schedules of Fees

The following Schedule of Minimum Fees has been adopted by the Tri-County Society of Professional Engineers and Surveyors and made a part of its Code of Ethics.

A. *Residential Surveys*: All land within three miles of Central and Main Streets, Middletown, Ohio; or, Second and High Streets, Hamilton, Ohio, (which is *not* interpreted as Business or Industrial by any Plan Board in Butler County); or, within the limits of an incorporated municipality in Butler, Preble or Warren Counties.

1. For a plain survey of a rectangular parcel of one-half acre or less (a Plain Survey is one marked with four wooden stakes and no other service furnished). Butler, Preble and Warren, $15.00.

2. For a plain survey of a curved or irregular parcel of one-half acre or less. B., P. and W., $20.00.

3. For additional adjacent parcels surveyed at the same time. For the first additional one and each one thereafter. B., P. and W., $3.00.

4. For parcels in excess of one-half acre; for the second half-acre, or part thereof. B., P. and W., $5.00.

For each additional half-acre, or part thereof. B., P. and W., $3.00.

5. Special markers (iron pins, stones, etc.) descriptions, plats, drawings, building locations, prints, etc. are not considered a part of a plain survey, but require an additional charge as scheduled under Section D.

B. *Business Surveys*: All land within three miles of Central and Main Streets, Middletown, Ohio; or Second and High Streets, Hamilton, Ohio, which *is* interpreted as business or industrial by any Plan Board in Butler County, or within the business or industrial limits of an incorporated municipality in Butler, Preble, or Warren Counties.

1. *Central Business Surveys* shall include all property designated in Middletown as Business "C" Zone or that area in Hamilton bounded by the Miami River, B. & O. R. R., Sycamore Street, and Dayton Street.

a) For a plain survey of a business or industrial parcel or one-half acre or less. Butler, $35.00, Preble and Warren, $20.00.

b) For business or industrial parcels in excess of one-half acre, the additional acreage shall be charged for at double the rates for residential surveys in excess of one-half acre.

c) Special markers, Plats, Drawings shall require an additional charge of double the rates for similar types of work as scheduled under Section D.

d) Descriptions and prints shall require an additional charge at the same rates as scheduled under Section D.

2. *Local Business Surveys* shall include all business or industrial property outside of the Central Business District of Hamilton or Middletown, Ohio, and any other business or industrial property in Butler, Preble, or Warren Counties.

a) For a plain survey of a local business or industrial parcel of one-half acre or less. B., P. and W., $20.00.

b) For business or industrial parcels in excess of one-half acre, the additional acreage shall be charged for at the same rates as residential surveys in excess of one-half acre.

c) Special markers, Descriptions, Plats, Drawings, Building Locations, Prints, etc., shall require an additional charge as scheduled under Section D.

C. *Farm Surveys*: All lands in Butler County more than three miles from the centers of Hamilton or Middletown as heretofore designated or outside of incorporated municipalities in Butler, Preble, and Warren Counties.

1. For a plain survey or one acre or part thereof. B., $20.00; P. and W. $15.00.

For each additional acre or part thereof, to five acres. B., $2.50; P. and W. $2.00.

2. For a plain survey of five acres. B., $30.00; P. and W., $25.00.

For each additional acre or part thereof, to ten acres. B., P. and W., $2.00.

3. For a plain survey of ten acres. B., $40.00; P. and W., $35.00.

For each additional acre or part thereof. B., P. and W., .50.

4. Special markers, Descriptions, Plats, Drawings, Building Locations, Prints, etc. shall require an additional charge as scheduled under Section D.

D. *Work in Addition To, But in Connection With, Plain Surveys.*

1. For iron pins, each, B., P. and W., .50.

2. For concrete or stone markers, each, B., P. and W., $2.50.

3. For pencil sketches of survey, each, B., P. and W., $2.00.

4. For ink tracings of survey, each, B., P. and W., $4.00.

5. For prints—COST, plus 50%.

6. Mapping and Drafting, per hour, B., P. and W., $2.00.

7. For descriptions, building locations, etc. the per diem rates as scheduled under Section C.

E. *Subdivisions*: Minimum fees for subdivisions shall include boundary surveys, approved design, plats for record, profile of streets, and staking lots and all incidental work excepting topographical surveys, construction plans and supervision, fees for which are scheduled elsewhere.

1. For subdivision of one acre or part thereof, each, B., P. and W., $70.00.

For each additional acre or part thereof to five acres. B., P. and W., $20.00.

2. For subdivisions of five acres, each, B., P. and W., $150.00.

For each additional acre or part thereof, to forty acres, B., P. and W., $20.00.

3. For a subdivision of forty acres, B., P. and W., $850.00.

For each additional acre or part thereof, to one hundred acres, B., P. and W., $15.00.

4. For a subdivision of one hundred acres, B., P. and W., $1750.00.

For each additional acre or part thereof, B., P. and W., $10.00.

F. *Topographic Surveys*: To all of

the minimum charges for Topographic surveys of more than five acres, 50% shall be added to the acreage price for that part which is wooded.

1. For a topographic survey of one-half acre or less, B., P. and W., $25.00.

2. For a topographic survey between one half acre and one acre, B., P. and W., $40.00.

For each additional acre or part thereof, to five acres, B., P. and W., $15.00.

3. For a topographic survey of five acres, B., P. and W., $100.00.

For each additional acre or part thereof, to ten acres, B., P. and W., $10.00.

4. For a topographic survey of ten acres, B., P. and W., $150.00.

For each additional acre or part thereof, to fifty acres, B., P. and W., $8.00.

5. For a topographic survey of fifty acres, B., P. and W., $470.00.

For each additional acre or part thereof, B., P. and W., $7.50.

G. *Miscellaneous Surveys*:

1. For a survey or location of Residential lots without stakes, and requiring location of buildings, a sketch or blue print, and certifications, a minimum charge of, B., P. and W., $17.50.

2. For an accident or situation survey, requiring court testimony as to its accuracy, but not to be considered expert testimony, a minimum charge, including survey, B., P. and W., $35.00.

H. *Per Diem Work* on basis of eight hour day. (On new work a minimum charge of two hours (one-quarter day) shall be made for any time put upon work requiring less than that time, and where more than two hours is put upon a new job, the actual time spent shall be charged at the proper per diem rate).

1. *Field Work*:

a) Engineer or Chief of Party, per day, Butler $25.00; Preble and Warren, $20.00.

b) First Assistant, per day, B., P. and W., $10.00.

c) Each additional assistant, per day, B., P. and W., $5.00.

2. *Office Work*:

a) Engineer, per day, B., $20.00; P. and W., $15.00.

b) Assistants, each per day, B. and P., $5.00-$10.00, Warren, $5.00-$8.00.

3. *Court Work*:

a) Expert testimony and professional consultations in court, exclusive of office and field work, and with minimum charge of one-half day, per day, B., P. and W., $50.00.

I. *Construction Work*: The minimum fees charged shall be those recommended by the American Society of Civil Engineers, except as herein provided.

a) For complete Engineering services incident to construction work involved in subdivision and platting improvements, including all surveys, platting, staking, engineering supervision and consultation necessary to complete the work as an improved plat, the following schedule shall be charged:

8% on projects costing 0 to $25,000.00; 7½% on projects costing $25,000.00 to $50,000.00; 7% on projects costing $50,000.00 to $75,000.00; 6½% on projects costing $75,000.00 to $100,000.00; 6% on projects costing $100,000.00 and over.

b) For inspectors an additional charge of each, per day, B., P. and W., $6.00.

c) For plans, specifications of work not executed, a minimum charge of 3% of the estimated cost of the work.

Proposed Schedule of Fees for Building Construction

Scheduled fees are for COMPLETE ENGINEERING SERVICES including:

Preliminary studies and estimates; complete working drawings in ink and complete specifications, from which contractors can prepare definite bids; checking of shop drawings; general supervision of construction.

Scheduled fees *do not include*—surveys; soil explorations; shop drawings; resident inspection; mill, shop or laboratory inspection.

Minimum fees apply to simple, heavy construction, involving many repetitions, and live loading of 150 lbs. per square foot or more.

Maximum fees apply to light or complicated construction, including schools, churches and theaters, having few repetitions, and live loading of 75 lbs. per square foot or less.*

Traveling and other authorized expenses to be added to fees scheduled. For work partially done and abandoned, charges are to be made as for extra services.

INVESTIGATIONS, REPORTS, CONSULTATIONS, EXTRA SERVICES, ETC. to be charged at per diem or hourly rates, as agreed upon, or employee's wages plus 100%.

* NEW BUILDING CONSTRUCTION

Cost of Work Covered by Engineering Specifications	*% of cost*	*Per Ton Struct. Steel*	*Per Ton Reinf. Conc.*	*Remodeling % of cost*
0 — 10,000	5 %—7 %	$4.00 — 7.00	$25.00 — 35.00	10%
10,000 — 50,000	4½%—6½%	3.50 — 6.50	22.50 — 32.50	10%
50,000 — 100,000	4 %—6 %	3.25 — 6.00	20.00 — 30.00	9%
100,000 — 500,000	3½%—5½%	2.80 — 5.50	17.50 — 27.50	8%
over — 500,000	3 %—5 %	2.50 — 5.00	15.00 — 25.00	6%

For PARTIAL ENGINEERING SERVICES, deduction shall be made in accordance with the following schedule:

Service Omitted	*Portion of Fee Deducted*
General Supervision of Construction	30%
Typing of Specifications—Blue-printing Drawings Reception and Tabulation of Bids	10%
Checking Shop Drawings	10%
Tracing Drawings	10%
Net Fee if all of the Above are Omitted	40% of Scheduled Fees

CALIFORNIA

State Board Issues Bulletin

The American Engineer acknowledges the receipt of The Registered Civil Engineer of April, 1936. It is interesting and encouraging to note that the California Board considers that it has obligations to the public that extend beyond the mere qualifying of candidates.

The news bulletin which is reproduced in excerpts merits attention from engineers,—California and elsewhere:

Professional Engineering

In the October, 1935, issue of The Registered Civil Engineer, Vice-President Dewell in his article "Unconventional Engineering" told of one phase of the board's activity in the administration of the registration law. He pointed out that the work was made necessary because certain of the applicants deviated from truth and fact without regard to ethics or honor. Contrasted to unconventional engineering, the registration board is also more than interested in professional civil engineering as it is practiced or not practiced in California.

The standard dictionary defines "profession" as an occupation that involves a liberal education, and mental rather than manual labor. The civil engineers' registration law clearly defines "civil engineering" as a profession. The law is specific in its requirements as to education, training, experience and judgment. Upon this premises no further argument is undertaken.

It is true that in California the title "civil engineer" or any representation thereof, may not be used legally unless the person to whom it refers is the holder of a valid certificate of registration as a civil engineer. However, the word "engineer" or "engineering" as commonly used is a misnomer. Its popular usage is that of a descriptive adjective used as a handle to apparently dignify some activity as an occupation (apart from a profession), vocation or too-often skilled labor. Your own experiences will recall to your mind many of the improper uses. However, the indiscriminate use of the word "engineer" can only be abolished when the engineering profession at large becomes sufficiently jealous of its rightful title to have the proper legislation enacted.

Your board is extremely interested in how the registered engineers, those who have been qualified by law to so practice, are taking their responsibilities. Civil engineering is by law, in California, a profession. By its very meaning a profession must be practiced by an individual. The result which culminates the practice of any single item of civil engineering has as its integral parts the personal knowledge, experience and judgment of the practitioner, all of which call

for the proper functioning of mental processes. These can not be transferred radio-like to another individual. Thus the practice of civil engineering can not be delegated to an unregistered subordinate.

An unregistered subordinate to a civil engineer must at all times occupy the position of an apprentice. The medical profession has its equivalent stations such as nurses and internes, who perform the skilled mechanical steps of the treatment prescribed by the physician, but in no case do they diagnose, prescribe or operate. Such assistance under direction, does not constitute practice.

This illustration represents the registration board's interpretation in regard to the legal activities of an unregistered subordinate to a civil engineer. It is the board's policy and practice to administer the law in accordance therewith.

Following the same line of reasoning, a partnership such as John Doe and Richard Roe, practicing civil engineering, it is required that both partners be registered. Although the unregistered partner does not, in fact, practice civil engineering, by inference he is holding himself out as an engineer and offering to practice, which is contrary to law. Further, Doe and Roe may have a silent partner but his relation to this association must be that of an unregistered subordinate (unless he is a registered civil engineer) or of some connection entirely apart from the civil engineering practice.

By the authority of the 1935 legislature the board is empowered to initiate proceedings, on its own motion for the reproval, suspension or revocation of a certificate of registration of any registered civil engineer who has been convicted of a felony, or who has not a good character, or who has been found guilty by the board of any deceit, misrepresentation, violation of contract, fraud or gross incompetency in his practice, or guilty of any fraud or deceit in obtaining his certificate or violation of any provision of the civil engineers' registration law.

The board deems that indiscriminate delegation of authority to unregistered subordinates or promiscuous signing of designs, specifications or other civil engineering documents is a violation of the authority and trust given to any registered civil engineer and, further, that such acts constitute deceit and misrepresentation by the practitioner.

The esteem which the public holds for the civil engineering profession is in fact a direct criticism upon the professional conduct of its practitioners. The prescription for engineering ills or the diagnosis of engineering problems have been written in such a way that John Public is firmly entrenched in his idea that anyone can practice this science with equal ability. It is true that our prescriptions do not contain those mystifying symbols used by a physician in ordering, for his patient, what is probably a grain of quinine. But it is equally true that the analysis and subsequent conclusion regarding engineering problems does require not only mental skill, but a background of education, training and experience in the science of engineering.

If an answer is to be made to the criticisms of civil engineering practice, it can only be made in the form of a thorough professional practice, as the word professional is used in its broadest and most dignified sense. In 1929, the people of California gave to the civil engineering profession rights and privileges of practice to be enjoyed only by those who were qualified. By the same token it imposed an obligation upon those who were to be qualified that this trust should not be violated. The Board of Registration for Civil Engineers, as trustee for the people of this state, in administering the registration law, expects each registrant to fulfill in both letter and spirit the obligations which were accepted when he became registered.

PUBLIC SAFETY STRESSED

Holding that a person who is not a registered civil engineer in this state can not prepare plans and specifications for small bridges, although no charge is made for such plans, Deputy Attorney General Hession sounded a warning, in a letter to the district attorney of El Dorado County, that has a far reaching effect. He emphasized the fact that the intent and purpose of the Civil Engineers' Registration Act is to safeguard life, health, property and public welfare, and as a matter of safety to the public only qualified (registered) engineers are authorized to prepare plans for bridges, regardless of the cost.

His letter follows:

Sacramento, Calif., November 6, 1935.
Henry S. Lyon
District Attorney
El Dorado County
Placerville, California
Dear Mr. Lyon:

When you were last in the office you submitted to me a problem confronting your board of supervisors wherein that Board contracted with one Hector Williamson for the construction of bridges where the price was under $500.00, and that they have been having him prepare plans and specifications without charge; and that the County Surveyor who is a civil engineer, has raised the question that such a practice is illegal in that Williamson is not a civil engineer, and can not prepare plans and specifications for the board.

I am of the opinion that the County Surveyor's contention is right.

I am sending you herewith a pamphlet containing the civil engineers' registration law, wherein section 1a defines the term "civil engineer" as meaning that branch of professional engineering which deals with the economics of, the use and design of, materials of construction and the determination of their physical qualities; and section 16 of the act containing the exemptions from the provisions of the act, which do not cover a person preparing plans and specifications.

The purpose and intent of the act is to have qualified persons prepare the plans and specifications as a matter of safety, and which would, of course, apply to a contractor preparing his own plans without charge, the same as to a person who prepared them for another with a charge.

Yours very truly,
(Signed) JESS HESSION,
Deputy Attorney General.

DEWELL REAPPOINTED

Henry D. Dewell was reappointed a member of the State Board of Registration for Civil Engineers by Governor Frank F. Merriam on February 27, to serve until January 15, 1939. Mr. Dewell has been a member of the board for five years.

THE REGISTERED CIVIL ENGINEER

Published by the State Board of Registration for Civil Engineers for the information of the public, registered civil engineers and land surveyors of the State of California.

Members of the State Board

Ralph J. Reed, President, Los Angeles; Henry D. Dewell, Vice-President, San Francisco; Asa G. Proctor, Member, Woodland; H. M. Jones, Secretary, Los Angeles; Pecos H. Calahan, Assistant Secretary.

Main Office, 503-G State Office Bldg., Sacramento. Branch Office: 906-F State Bldg., Los Angeles.

WORD ENGINEER MISUSED

Much has been said regarding the improper use of the word "engineer". It has also been demonstrated that such improper usage in no way reflects credit on the engineering profession; is not conducive to the best public interest; and certainly has its adverse reaction upon the administration of the Civil Engineers' Registration Law.

One of the ways in which the promiscuous use of the word "engineer" can be eliminated is shown by the California Highway Commission. Too much credit can not be given Mr. C. H. Purcell, State Highway Engineer, for calling a spade a spade. By way of illustration, the following two items were taken from official notices inviting bids; the one designated "A" being that of the State of California, Department of Public Works, Division of Highways and "B", that of Governmental Agency X. The two items are for identical positions.

"A" Pile Driver Hoistman or Operator
"B" Pile Driver Engineer

It is suggested that engineers who are responsible for the preparation of "Notices to Contractors," in all propriety, can follow the example set by the California Highway Commission.

PENNSYLVANIA

Bethlehem Meeting

D. B. Steinman, President of the National Society of Professional Engineers, will be the guest speaker at a meeting to be held at the Hotel Bethlehem on May 22nd.

The present enrollment of the new Chapter is approximately 30 per cent of all eligible engineers. It is expected that more than 100 will be in attendance. All professional engineers who can attend are invited to do so.

Philadelphia

The Philadelphia Chapter held its monthly meeting at the Engineers' Club on Thursday, April 2nd.

An interesting and perhaps provocative subject was ably handed by the guest speaker, Alan Corson, Chief Engineer of the Fairmount Park Commission, whose topic was "Shall An Engineer or An Architect be the Controlling Factor in a Park Commission".

NEW YORK

Legislation

On January 31st, 1936, Senator Thomas C. Desmond introduced in the Senate a bill having the short title of the "Public Projects Efficiency Law," Senate Print No. 708.

This measure purposes to authorize the employment of the services of independent licensed engineers: (*a*) by the Governor or state agencies and county and other local legislative bodies to check in advance the technical and other features of public plans; (*b*) by the Governor or a state agency to devise a long-range program for accomplishing some specific purpose for which state funds are appropriated.

State Society Headquarters

Engineer John C. Riedel, President of the New York State Society, recently announced that the proposal to establish State Society Headquarters in Albany will be considered by a committee composed of the following members: D. B. Steinman, A. V. Sheridan, A. G. Chapman, J. M. Welsch, Members of the Board of Trustees; Alfred E. Roche, Vice-President; L. S. Stiles, Director; J. Leo Scanlon, Director; Robert C. Wheeler, President Albany County Chapter; Charles H. Sells, President Westchester County Chapter; John W. Pickworth, President New York County Chapter; H. F. Eilers, President Steuben Area Chapter; Stewart S. Neff, President Erie County Chapter.

This committee will present a formal report upon this matter at the Annual Convention scheduled to be held in the City of New York on May 23rd, 1936.

ERIE COUNTY

Engineer Watts D. Gardner of Buffalo, who was engaged for a number of years with the United States Lighthouse Service, died on January 4th, 1936. Engineer Gardner was an active, loyal, and highly regarded member of the Erie County Chapter and his passing is mourned by his many professional associates and friends.

NEW YORK COUNTY

The following officers and directors will guide the fortunes of the New York County Chapter for the year 1936-37: President, John W. Pickworth; Vice-Presidents, Edwin A. Kingsley, F. E. Schmitt, Maurice Deutsch, George A. Sallans, Martin Nixon-Miller; Treasurer-Financial Secretary, William H. Yates; Secretary, Frank A. Rossell; Directors, William W. Reynolds, Jacob Mark, V. J. Cucci, D. B. Steinman, Ralph H. McKee, Emil Praeger, Donald Hepburn, R. M. Kendall, H. S. Roemmele, R. C. Springer.

WESTCHESTER COUNTY

The Westchester County Chapter held its annual meeting and banquet at the Elks Club, White Plains, on April 1st, 1936. The following officers were selected to serve for the year 1936-37: President, Charles H. Sells, White Plains; Vice-President, Joseph A. Brady, White Plains; Secretary, Francis J. Laverty, Briarcliff; Treasurer, John A. Weyant, Yorktown Heights.

Engineer Arthur Benline, a new director, is licensed to practice professional engineering in five states. That record rates the title Engineer.

All members of the Chapter have been requested to write to their representative in Congress urging their support of the enactment of a registration law for the District of Columbia.

BRONX COUNTY

Engineer Raymond J. Van Wagner, President of the Bronx County Chapter, has appointed the following members to serve on standing committees: Membership Committee, Joseph B. Diamond, Chairman, William Jackson, Joseph L. Brennan, Rudolph Cook, Russell Tonneson, Oscar Hayes; Legislative Committee, Robert J. Eagar, Chairman, Charles F. Giraud, Arthur V. Sheridan, William Nichols, Patrick H. Murray; Public Relations Committee, Joseph B. Gaffney, Chairman, Charles Schaefer, Jr., Harrison Blankstein, George C. Shannon, Eugene E. Farnan; Publicity Committee, Joseph A. Brunner, Chairman, Edmund Brittan, Fred Caiola, Alan William Kellar, Nathan Trace; Ethics and Practice Committee, John H. Knight, Chairman, Paul Treutler, David Plotkin, Eugene E. Farnan, Aaron Halpern; Professional Conduct Committee, Alexander Haring, Chairman, William Hauck, Robert Eagar, John H. Knight, Edward Crinnion.

STEUBEN AREA

Members and guests of the Steuben Area Chapter attended a dinner and meeting at the Baron Steuben Hotel on April 7th, 1936.

Resolutions were adopted approving: The present dues of the National and State Societies and of the Chapter; the establishment of State Society Headquarters in Albany; Chapter representation by delegates to State Society meetings.

H. Kaye Martin, patent attorney for the Corning Glass Works delivered a highly informative address on "Patent Procedure."

MONROE COUNTY

The Monroe County Chapter at its recent annual meeting elected the following officers: President, Howard S. Thomas; Vice-President, Ray H. Hendrickson; Directors, Sigmund Firestone, A. P. Mussi, William R. Storey.

Annual Meeting

New York, May 23, 1936

The ninth Annual Meeting of the New York State Society of Professional Engineers will be held at the Hotel Commodore in the City of New York on Saturday, May 23rd. The program will follow that of 1935 and will consist of a morning and afternoon session with a luncheon period at which distinguished speakers will present short addresses on topics of public interest.

In addition to the business meetings and the luncheon there will be held a display of exhibits consisting of outstanding works of art representative of proposed engineering projects in and about the City of New York. The exhibition will be open for inspection from 9:00 A. M. to 5:00 P. M., and will be so located as to be readily viewed by the general public.

Every chapter is expected to be represented and it is hoped that the attendance will be in excess of any similar meeting of its kind which has taken place in the City of New York.

Nominations for 1936-1937

The Committee on Nominations, appointed at the meeting held in Albany on March 21st, has submitted the following report:

President, John Charles Riedel; 1st Vice-President, Alfred E. Roche; 2nd Vice-President, Fred H. Zurmuhlen; Financial Secretary, Ernest F. Fox; Treasurer, Patrick M. Corry.

Directors: Oscar A. D'Luhosch, Dutchess; LeRoy J. Call, Niagara; Werner C. Strecker, Schenectady; Francis J. Laverty, Westchester; Edward S. Thomas, Monroe; Andrew K. Johnson, Queens; George W. Codwise, Ulster; Harold R. Towse, New York.

N. S. P. E. NEWS

(*Continued from page* 16)

neers. If you can arrange to arrive Saturday October 10th and stay over until the 13th, the committee will see to it that you are well entertained. The tentative program will be announced in the May issue of American Engineer.

Floods

Did old man river come right up to your door and slide right past the N.R.A. sign (No River Allowed)? See elsewhere in this issue what the President of the Connecticut Society of Professional Engineers has to say about floods. At his request Congress has heard from N.S.P.E. You can help by assisting Engineer Harris, and you will find his address on the cover of this magazine.

ENGINEERING OPPORTUNITY

(*Continued from page* 16)

office to the officials on the Isthmus for their consideration.

CHIEF OF OFFICE,
The Panama Canal,
Washington, D. C.

Vacancies exist at the present time in the positions indicated hereunder for temporary employment for a period of about six (6) months for duty with The Panama Canal in the Canal Zone:

Structural Designers, Professional Service, Grade P-2, at $270.83 a month.

Structural Designers, Professional Service, Grade P-1, at $208.33 a month.

Electrical Designer, Professional Service, Grade P-2, at $270.83 a month.

Electrical Designer, Professional Service, Grade P-1, at $208.33 a month.

In order to qualify as Structural Designer applicants must be civil engineering graduates from a college or university of recognized standing, and have considerable experience in structural engineering, especially on buildings having concrete foundations and basements and on those of permanent construction employing reinforced concrete walls and partitions with tile floors and roofs.

In order to qualify as Electrical Designer applicants must be electrical engineering graduates from a college or university of recognized standing and have considerable experience in electrical engineering in connection with electrical installations on various types of buildings.

Appointees will be furnished free steamship transportation from New York or New Orleans to the Isthmus of Panama, wages beginning on date of sailing and free return steamship transportation will be furnished upon completion of work if services are satisfactory, but no transit time during return.

All applicants must be in good health and physically sound. They must be American citizens, not over 45 years of age, and if foreign born must submit

their final Certificate of Naturalization with their application, or that of their father if they claim citizenship through him, which will be returned promptly.

Application for these positions should be filed on Form 115, accompanied by a recent unmounted photograph of the applicant, a good postcard or Kodak photo being satisfactory. The application should also be accompanied by a statement amplifying the applicant's training, qualifications and experience. Names and addresses of references should be written clearly in answer to this question on the back of the application form. All papers should be returned to: "Chief of Office, The Panama Canal, Washington, D. C."

Applications after proper completion from those who appear to fully meet the requirements will be forwarded by this office to the officials on the Isthmus for their consideration.

CHIEF OF OFFICE,
The Panama Canal,
Washington, D. C.

Apply to Washington Office.—Panama Canal, Washington, D. C.

SOCIETY BULLETIN NO. 18

Status of Proposed Legislation
District of Columbia

To All State Secretaries:

Senator Arthur Capper of Kansas at the request of N. S. P. E. and the District of Columbia Society of Professional Engineers introduced on April 7th, 1936, S. 4443, which was read twice and referred to the Committee on the District of Columbia. This is a companion Bill to H. R. 11853 of which you received a copy with Bulletin Number 17, issued by the undersigned on March 18, 1936.

The Legislative Committee of the District of Columbia Society of Professional Engineers appreciates your response to our Bulletin No. 17 and will ever be grateful to you for your assistance in this matter.

Let's show them how this machine can work when placed in action, write or wire to the following Senators of the District Committee your approval of this progres sive legislation.

Senators on District of Columbia Committee

William H. King, of Utah; Royal S. Copeland, of New York; Thomas P. Gore, of Oklahoma; John H. Bankhead, of Alabama 2d.; Robert R. Reynolds, of North Carolina; Arthur Capper, of Kansas; Warren R. Austin, of Vermont; Carter Glass, of Virginia; Millard E. Tydings, of Maryland; J. Hamilton Lewis, of Illinois; Pat McCarran of Nevada; Theodore G. Bilbo, of Mississippi; Robert D. Carey, of Wyoming; James Couzens, of Michigan.

Sincerely yours,
WILLARD S. CONLON.

A CANADIAN PRACTICE

That Serves Both Public and Profession
Why Not So in The U. S.?

The Engineering Profession in British Columbia—Qualifications leading to a license to practice.

For University Applicants

"Engineering Pupil"—In British Columbia undergraduates enroll as "Engineering Pupils" in the third year of a five year course.

"Engineer-in-Training" — On graduation, graduates enroll as "Engineers-in-Training"; are formally welcomed into the Profession by means of a suitable ceremony held in their honour by the Council of the Association (part of the ceremony being "The Order of the Calling of an Engineer"). An Entrance fee of $10.00 becomes payable in the year subsequent to the year of graduation and an Annual Fee of $5.00 in succeeding years.

"The License to Practice" constitutes the highest honour at the disposal of the Engineering Profession and this is granted to graduates who, after four or five years of practical work and having paid their fees as Engineers-in-Training for this period, present a worth-while professional thesis of from five to ten thousand words, based on the work that they have enjoyed or been in contact with subsequent to graduation.

The theory or principle underlying the granting of a license to practise is that which guides all the other professions, namely that those applicants who have successfully passed through the officially prescribed education, the officially prescribed junior experience and the official tests, deserve complete and full recognition. (Entrance Fee $35.00. Annual Fee $10.00).

For Non-University Applicants

Non-university applicants, who must possess JUNIOR MATRICULATION, can obtain a license to practise by passing three examinations, Preliminary, Intermediate and Final, together with a professional thesis. Semi-annual Examinations April 27th, 1936, and October 28th, 1936.

Further information can be obtained from the Registrar, The Association of Professional Engineers of the Province of B. C., 930 Birks Building, Vancouver, B. C. Telephone: Seymour 1827.

REGISTRATION FOR CAPITAL

(*Continued from page* 14)

practicing or offering to practice herein for more than sixty days in any calendar year the profession of engineering, if he shall have filed with the Board an application for a certificate of registration and shall have paid the fee required by this Act. Such exemption shall continue only for such time as the Board requires for the consideration of the application for registration: *Provided,* That such a person is legally qualified to practice said profession in his own State or country in which the requirements and qualifications for obtaining a certificate of registration are not lower than those specified in this Act.

(c) A person who has recently become a resident of the District of Columbia, practicing or offering to practice the profession of engineering, if he shall have filed with the Board an application for a certificate of registration and shall have paid the fee required by this Act. Such exemption shall continue only for such time as the Board requires for consideration of the application for registration: *Provided,* That such a person is legally qualified to practice said profession in the State or country of previous residence and that the qualifications for obtaining a certificate of registration in said State or country are not lower than those specified in this Act.

(d) An employee or a subordinate of a person holding a certificate of registration in the District of Columbia who is engaged in the practice of the profession of engineering and an employee of a person exempted from registration by classes (a) and (b) of this section, provided such practice does not include responsible charge of design or supervision.

(e) Officers and employees of the Government of the United States and of the District of Columbia while engaged in the practice of the profession of engineering for said governments.

(f) A person who practices the profession of engineering exclusively as a regular employee of a public-service company by rendering to such company engineering service in connection with its facilities which are subject to regulation, supervision, and control, in order to safeguard life, health, and property by the Public Utilities Commission of the District of Columbia, so long as such person is thus actually and exclusively employed and no longer: *Provided,* That such company shall have at least one engineer, registered under the provision of this Act, in responsible charge of such engineering work of the company in the District of Columbia.

(g) Any person registered as an architect under the laws of the District of Columbia, except that such person shall not use the designation of "engineer" or "engineering" unless registered under the provisions of this Act.

(*To be concluded in May issue*)

ETHICS AND ORGANIZATION

(*Continued from page* 15)

paying organization which prevents employment when dues are not paid. Engineers as a group will not stoop to such deceit.

The engineer in the U. S. A. is neither fascist nor communist but believes in democracy—the rule of the majority. Our ethics must rest upon the same foundation as the ideal of our fathers who believed in government of the people, for the people and by the people.

The professional engineer is an educated person and should be intelligent enough to realize that it is to his own economic interest to maintain the code of ethics which he and his fellow engineers formulate for the good of all. Restrictions imposed by a minority, latho in legal power, cannot work for lasting good but will result in detrimental reaction. Enforcement by artificial means can only result in disaster.

Let us publish to all engineers the good news of the formation of our professional society so that they will desire, for their own welfare, to join with us in the writing of our code of ethics and practice, as well as our constitution and by-laws, for the further social and economic advancement of engineers and civilized society.

CONSULTING ENGINEERS' REPORT

(*Continued from page* 11)

engineer in private practice. Further, of course, an unblemished record of probity.

The Institute is national in scope, it includes members of all branches of the profession and is therefore in a position to adequately serve as an instrument for the advancement of the interests of Engineers of good standing in private practice, and Consulting Engineers of established reputation.

Ed. Comment:

True, the National and State Professional Societies are not primarily inter-

ested in Consulting Engineers as Consulting Engineers to the non-interest, exclusion or lesser interests of the engineer in public or private employ. They are, however, greatly interested in private practitioners and have built an organization about the engineer who is a professional man in the sense that he protects life, health and property as does a doctor. Outstanding consultants of national and international fame are members of the National Society, which has today many more private practitioners of recognized standing on its rolls than has A. I. C. E.

Newspaper Publicity and Advertising Committee:

One writer states:

Correspondent:

Set up a press bureau to establish contact with the leading newspapers in local areas and furnish responsible comment on engineering projects.

I have always been of the opinion that the daily paper is the most potent means of reaching the average man, when you have anything worth saying.

I know of no better plan than an extended advertising campaign, over a long period of time, plus agitation of the Engineers themselves into the possibilities of their own Profession in Public Service.

Another thing I think Engineering is very weak in, is publicity. When I tell some people that I am an Engineer, they ask me what kind of an engine I run, but everybody seems to know what an Architect is. You never see a picture in the paper but that the architect is given credit for its rendition. But it is very seldom that you can see an engineering project of any kind pictured and find that the Engineer receives full credit. I can remember when one of the first drawings came out, of the Washington Bridge in New York City and my chagrin that some architect was given credit for this and no Engineer even mentioned . . .

My suggestion for providing publicity is to organize an Association or Corporation under the control of the Institute for this purpose. This organization to draft the services of fully qualified Engineers for the purpose of investigating and preparing reviews of various Government projects with clear statements of the facts, disclosed in a form that can be comprehended by the general public. These Engineers to contribute their services free, with expenses to be provided by syndicating the sale of these reviews to newspapers, magazines, etc. Also, arrangements for radio broadcasting could probably be made.

Ed. Comment:

This is exactly what the professional societies are doing. One need only refer to the press clippings of the National Society, drawn from every state in the Union.

Note specifically the recent wide publicity accorded the Connecticut Society on its flood control stand. National, state and local papers and officials have commended it.

As for the George Washington Bridge reference, it is interesting to note that the local state Societies made much of this five years ago, as did they also of the Delaware Bridge at Camden.

Radio broadcasting programs have been sponsored by several state societies.

Conclusions

Committee:

The replies have developed the fact that there has been quite a little more activity in welfare matters and the advancement of the status of engineers on the part of local societies of engineers than had been realized. It is recommended that further efforts be made to compile a directory of all these local organizations which often include members of all the founder societies, find out more about what they have been and are doing and endeavor to establish means of cooperation and possibly coordination of their activities.

Ed. Comment:

The National Society of Professional Engineers and the several State Societies and their County Chapters have objectives and facilities that merit attention from A. I. C. E. The professional society is fundamentally sound and is organized along lines that recognize the social and political subdivisions of the nation rather than the specializations of the profession. The engineer is first of all a member of Society. He must function as such if he hopes to aid either the State or himself.

THE CONTRACT SYSTEM

(*Continued from page* 7)

and uneconomical. But those things don't count in the present order. Nobody seems to care about public expenses today. Everybody seems to think it is going to be paid by the other fellow and the only one ever heard raising his voice against it is some contractor who now and then protests feebly but does nothing about it.

Thousands of cases of the current day labor atrocities could be cited. Everyone can cite cases coming under their own personal observation. But what is the use? The present high authorities will insist that this sort of thing is perfectly all right. That such acts will be eventually enshrined.

The general feeling about the current day labor program is that it is something of a temporary character. That the absurdities and abuses now running rampant will disappear in a short time and never return. Nothing could be further from the truth. There are too many factors and factions interested in the continuance of this scheme. They will at least prolong it and they may actually succeed in perpetuating it. It is being used as a springboard by the day labor advocates and organized labor.

They will soon be casting longing eyes upon road building as probably the most desirable field for perpetuating their present set-up.

Some group of administrators will soon be presenting convincing tables of comparative costs. Great claims will be made of the efficiency and experience of their organization and of the adequacy, fine conditions and adaptability of the plant they have on hand. It will all sound very plausible, to the uninitiated and the indifferent, because it will be expertly presented. Its sole purpose will be to influence some legislative group to turn over to them some large program such as the road building work. Assurances will be given that the best interests of the country at large will be served thereby.

By this time, day labor interests have built up and are enjoying a great power which gives them a certain dominating position in legislative matter. This is quickly recognized by legislative bodies and advocates. It fits into some of the pet ideas of legislators and it is fraught with future political possibilities.

Your trade associations will make what they think are heroic efforts to prevent this. Those efforts will in reality be puny in their effect, because your limited numbers renders you politically insignificant. *As a result* your industry will be taken out of your hands. Partly at first, but before very long, in whole.

It is perfectly proper for you to ask what are you to do about this. It is urgent you give it the most serious study you are capable of. Develop a program of activities which will stop it. Educate those to whom your political representatives lend an ear. Give them the facts. Show them that the whole system is against the spirit of enterprise which is the very essence of the stuff that raised this country to its present leading position in world affairs. Show them that it is against their personal interests. Enlist their aid in preventing our country from plunging into a position that is saturated with fallacies, cliques, intrigues and irresponsible control.

No other industry in the U. S. is as loosely bound together as contractors. All other industries are so organized through national and local associations that they are powerful enough to resist intrusions. But not so with contractors. They prefer to be individuals and seem to be as incapable of organization as the Arabs. Not more than ten percent of the contractors in the U. S. are members of industrial associations. This lack of organized resistance is the greatest weapon your enemies have to use against you. Your task is to organize into a group large enough to be able to offer strong resistance and large enough to be considered politically important. Otherwise you face certain and complete extinction.

By strong organization, strong resistance, and wide-spread education of the public at large you may survive. Otherwise you perish. If your industry is worth anything to you, if you think it is worth saving at all, then put forth the same effort with which you conquer the forces of nature in the execution of those hazardous and difficult projects which are everlasting monuments to the zeal and energy of which you are capable. Restore and preserve the system which built up our country in the past. Restore common sense, efficiency and economy in public affairs to their rightful places.

The time has come when you must sell the idea of value, advantages and benefits of the Contracting System in public works to the country at large. You must educate the general public to the enormity of the menaces of Day Labor. Get the public to help you influence legislators. The legislators will, you know, be the deciding factors on this question.

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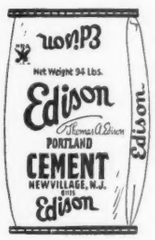

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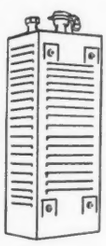

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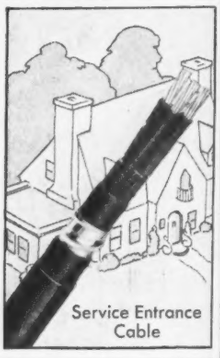
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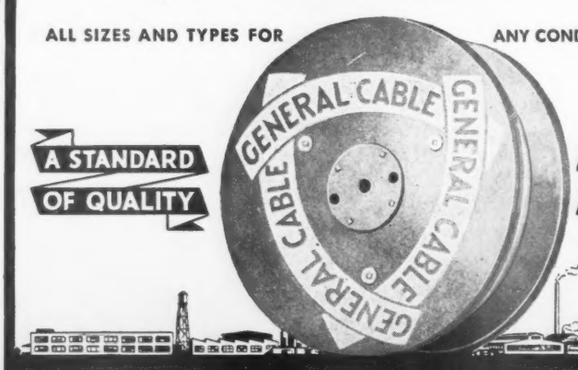

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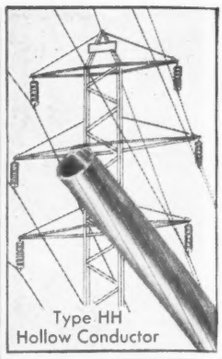
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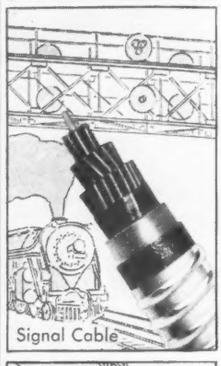
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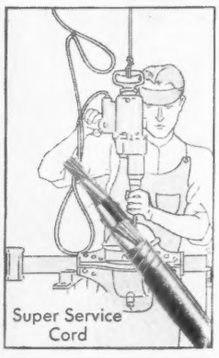
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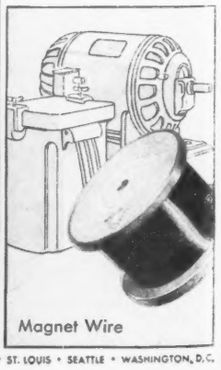
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